MESSOA®

www.messoa.com

2MP High Speed PTZ Dome Network Camera

NIC990

User Manual

2012-06 A1

Cautions

- The camera must be installed on a solid mounting surface.
- Please make sure the power source is AC 24V / PoE+. Although the camera can be powered via a PoE+ connection, the PoE+ power source won't be able to drive the camera with its equipped heater being operating simultaneously. Users are supposed only to supply the camera with AC 24V continuously for the heater inside the camera to operate.
- Keep the camera and other accessories dry.
- Before cleaning the unit, please first unplug the power
- The power cable must be properly secured as improper connections may cause a short circuit, fire hazards, or serious damage and hazards.
- During prolonged inactivity, please unplug the power cable and the video cable to avoid damage from lightning strike and power surges
- The use of CSA certified/ UL Listed Class 2 power adapters is required to ensure compliance.

Warnings

- Installation and maintenance should be performed only by qualified and experienced technicians to conform to all local codes and to maintain your warranty.
- Please follow the Caution labels on the product and Instruction Manual to ensure operation safety.

	THIS SYMBOL INDICATES THAT DANGEROUS VOLTAGE CONSTITUTING A RISK OF ELECTRIC SHOCK IS PRESENT WITHIN THE UNIT.
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE THE COVER. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.	THIS SYMBOL INDICATES THAT IMPORTANT OPERATING AND MAINTENANCE INSTRUCTIONS ACCOMPANY THIS UNIT.

Copyright

No part of this document may be reproduced or transmitted in any form or by any means, electronic or mechanical, for any purpose, without the express written permission of MESSOA.
© 2012 All rights reserved.

Disclaimer

Specifications and information contained in this document are presented as accurately as possible as of the time of release, but are not guaranteed to be entirely free of error. MESSOA assumes no responsibility for errors or omissions that may appear in this document and reserves the right to change this publication at any time without obligation to notify anyone of such revisions or changes.

FCC Class A Compliance Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications to the equipment not expressly approved by MESSOA could void the user's authority to operate the equipment.

CE Compliance Statement

This equipment complies with the following requirements of the EMC Directive 2004/108/EC for CE Marking: EN 55022: 2010 Class A, EN 61000 and EN 50130.

WEEE

Waste Electrical and Electronic Equipment

Correct disposal of this product (applicable in the European Unior and other European countries with separate collecction systems). This product should be disposed of, at the end of its useful life, as per applicalbe local lows, regulations and procedures.

Table of Contents

1. Overview 5
1.1 Introduction 5
1.2 Package Contents 5
1.3 Dimensions 6
1.4 Identifying the Parts of the Camera 7
1.5 Specifications 9
2. Getting Started 10
2.1 Installing the Camera 10
2.1.1 Mounting the IP Camera 10
2.1.2 Connecting to a Power Supply 11
2.1.3 Deployment 11
2.2 Acessing the Camera for the First Time 13
2.3 Using "IP Finder" to Manage Cameras 16
2.3.1 Installing IP Finder 16
2.3.2 Using IP Finder 16
3. Web-based Interface 19
3.1 Live View 19
3.1.1 Using the Live Player - Web 21
3.2 Information 22
3.3 Image 22
3.3.1 Basic Settings 22
3.3.2 Auto Patrol 26
3.3.3 Privacy Zone 27
3.3.4 Codec 28
3.3.5 External Alarms 29
3.3.6 SD Card Recording 31
3.3.7 FTP Recording 35
3.3.8 E-mail 39
3.3.9 Audio 42
3.4 Network 42
3.4.1 Basic 42
3.4.2 DDNS 43
3.4.3 FTP Server 44

3.5 System **45**

3.5.1 Password **45**

3.5.2 Date/Time **46**

3.5.3 Firmware **47**

3.5.4 Configuraion **48**

3.6 Event Log **49**

1. Overview

1.1 Introduction

The NIC990 is designed to provide crystal-clear 16:9 full HD video for outdoor applications in both day and night. With the support of H.264 compression, NIC990 offers you high quality images yet without the need of high bandwidth and storage capacity.

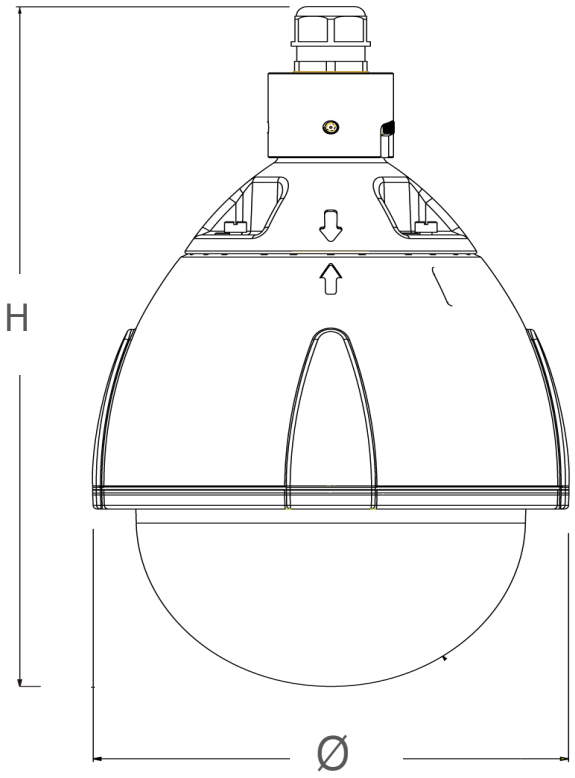
It also features superior WDR, white balance and AE controls to handle the variations of luminance and thus ensures you don't miss a thing. The vandal-resistant, rugged camera is ideal for applications demanding extreme protection. With a 20X optical zoom lens and powerful pan, tilt and zoom capabilities, it guarantees complete coverage of every angle. It is ideal for applications where operators need to monitor a wide area and to track distant objects, such as seaports, railway stations or public safety surveillance.

1.2 Package Contents

The package include these items:

- Full HD 1080p, High Speed PTZ Dome Network Camera x1
- CD-ROM (User manual and IP Finder utility) x1
- Quick Start Guide x1
- Power Adaptor x1
- RJ-45 Coupler x1
- Screw (1/4-20UNC, 12mm) x1
- Torx Key x1
- Allen Wrench (4mm) x1

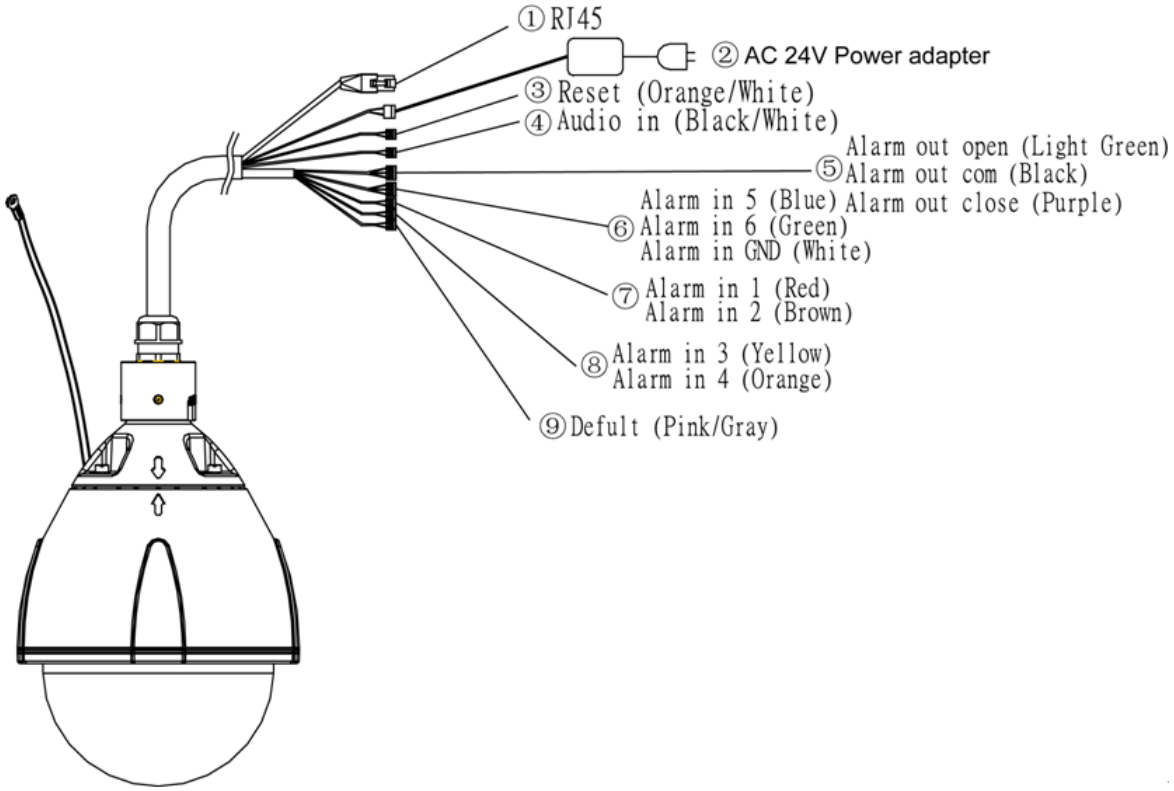
1.3 Dimensions



Unit (Ø x H): 216.14mm X 360.19mm (8.51" X 14.18")

1.4 Identifying the Parts of the Camera

Pin	Definition	Description
1	RJ45	Use this connector to make a 10BaseT/100Base-TX link between the camera and network devices like hubs, switches or routers. With connecting to a POE+ compliant PSE, the camera can be powered via this RJ-45 cable.
2	Power Input (Black/White)	Wire this terminal block to an AC power supply. If you are to use power via the Fast Ethernet connection, this terminal block is not used.
3	Reset (Orange/White)	Wire the terminal block with an on/off switch or just have the two conducts shorted to restart the system
4	Audio-in (Black/White)	Connect to an external microphone to record audio around the camera site.
5	Alarm-out Open (Light Green) Alarm-out Com (Black) Alarm-out Close (Purple)	Wired to send signals to external devices for alarm purposes.
6	Alarm-in 5 (Blue) Alarm-in 6 (Green) Alarm-in GND (White)	Wired to receive alarm signals triggered by external devices.
7	Alarm-in 1 (Red) Alarm-in 2 (Brown)	Wired to receive alarm signals triggered by external devices.
8	Alarm-in 3 (Yellow) Alarm-in 4 (Orange)	Wired to receive alarm signals triggered by external devices.
9	Default (Pink/Gray)	Wire the terminal block with an on/off switch or just have the two conducts shorted for at least five seconds to load factory default.


①RJ45
②AC 24V Power adapter
③Reset (Orange/White)
④Audio in (Black/White)
Alarm out open (Light Green)
⑤Alarm out com (Black)
Alarm out close (Purple)
Alarm in 5 (Blue)
⑥Alarm in 6 (Green)
Alarm in GND (White)
⑦Alarm in 1 (Red)
Alarm in 2 (Brown)
⑧Alarm in 3 (Yellow)
Alarm in 4 (Orange)
⑨Defult (Pink/Gray)

1.5 Specifications

Video	
Sensor Type	1/2.8" image sensor(CMOS)
Active Pixels	1920x1080 (HxV)
Compression	H.264 / MJPEG
Streaming	Dual streaming
Resolution	1080P, 720P, 480P, VGA, QVGA, CIF
Max. Frame Rate	2MP 16:9 (1920x1080) at 30 fps (NTSC/ PAL)
Day/Night	Mechanical (ICR) D/N control
Day/Night Mode	Auto, Day, Night
Shutter Time	1/10000s to 1s selectable (60Hz/50Hz)
Minimum Illumination	Color 0.4 Lux, B/W 0.08 Lux @30IRE Color 1.7 Lux, B/W 0.3 Lux @50IRE (Shutter speed: 1/30 sec)
Bit Rate Control	Primary stream bit rate control: CBR/ VBR
Lens	
Type, Focal Length, F-number	Built-in Mechanical IR Cut Filter varifocal lens, f=4.7~94mm, F1.6~3.5 (Mega pixel lens)
View Angle	H:55.4°(wide), 2.9°(tele) Full HD mode
Zoom Limit	Up to 240X (Optical 20X, Digital 12X)
IRIS Control	Auto
P/T Operation	
Pan Range	360° continuous
Tilt Range	92°
Manual Pan Speed	0.1~120°/s, 0.1°/s: max dig.optical zoom
Manual Tilt Speed	0.1~ 90°/s, 0.1°/s: max dig.optical zoom
Preset Speed	Pan:430°/s, Tilt:200°/s
Proportional P/T	Yes
Programmable Presets	128
Auto Patrol Group	4
Stop Time	3, 5, 7, 15, 30, 60 sec
Scan function	Auto, Random, Frame
Recover time limit	OFF, 1~120 min
Recover Time Limit	OFF, 1 to 120 minutes
Audio	
Audio Communication	One-Way audio
Compression	G711-Alaw, G711-Ulaw, PCM, 8kHz
Audio In/Out	External microphone
Image Enhancement	
Image Settings	Exposure Mode: Auto/shutter priority White Balance: Auto/ATW/Indoor/ Outdoor/One-Push Backlight Compensation: On/Off Sharpness: 15 level sensitivity
WDR	Yes
DNR	Yes
Privacy Zone	Yes; customized threshold privacy zone
Image Orientation	Mirror, Flip
Frequency Control	50Hz, 60Hz
Intelligent Video & Event Management	
Motion Detection	Yes; 3 level sensitivity
Others	Snapshot, Freeze Activity
Events	Motion detection, external alarm
Event Actions	File upload via FTP, SMTP and SD Card, Notification via email
Store Category	Alarm / Event / Schedule recording Stores snapshots
Local Storage	
Memory Card Slot	Micro SD Card up to 32 GB
Memory Card Overwrite	Yes
Network	
Protocol	IPv4, HTTP, TCP, RTSP/RTCP/RTP, ICMP, UDP, IGMP, DNS, DHCP, ARP, NTP ,UPnP, DDNS, SMTP
Ethernet	1 x 10/100 base-T Ethernet connection for LAN/WAN, RJ45
PoE	PoE+(IEEE 802.3at)
Browser	IE Browser 8.0 , 9.0
Security	Password protection
I/O Connector	
Power	2-pin Terminal Block
Alarm In/Out	Terminal Block 6 in / 1 out
Network	RJ-45 for Ethernet 10BaseT/100BaseTX
Audio In/Out	Terminal Block 1 in / 0 out
Reset	2-pin Terminal Block
Power	
Power Requirement	AC24V ± 10% / PoE+(IEEE 802.3at)
Power Consumption (Max.)	55W
Mechanical	
Dimensions(ΦxH)	216.14mm X 360.19mm (8.51" X 14.18")
Weight	3800g (8.14lb)
Protection	IP67, IK10
Battery Backed-up Real-time Clock	Internal RTC
Environmental	
Operating Temperature	-40° to 50°C(AC24V); -10° to 50°C(PoE+)/AC24V
Operating Humidity	20~90%RH
Storage Temperature	-20°C ~ 60°C (-4°F ~ 140°F)
Regulation	
EMI	FCC Part 15 Class A, CISPR 22 Class A, EN 55022 Class A, EN 61000-3-2, EN 61000-3-3
EMS	EN 50130-4, EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN61000-4-11

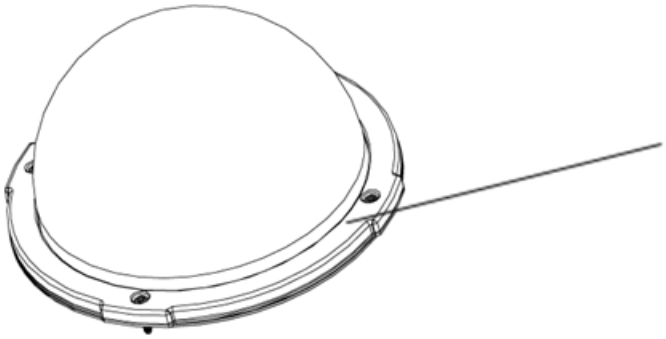
2. Getting Started

This chapter is intended to give information and instructions for installing and conducting the initial configuration of the network camera. Sections within this chapter include mounting, power wiring, network deployment, IP Finder utility installation and how to use IP Finder.

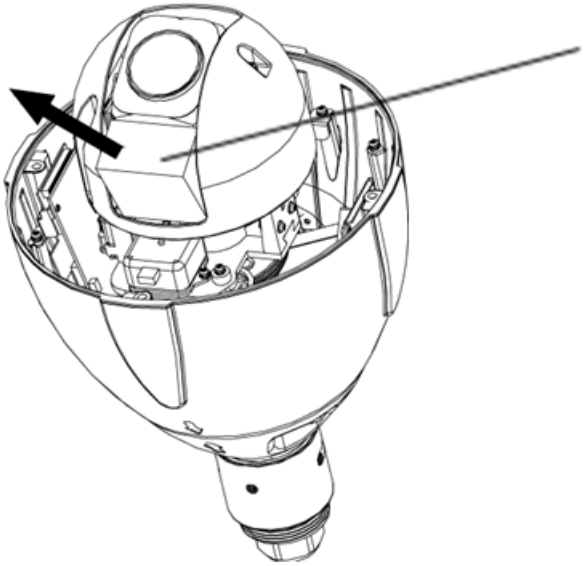
2.1 Installing the Camera

2.1.1 Mounting the IP Camera

The camera supports several mounting methods. Select an appropriate method according to your location and purchase required mounting brackets or accessories.



Take off the bubble before installing the camera.



Take out EPE before connecting the camera to the power.

2.1.2 Connecting to a Power Supply

The camera does not include an On/Off switch. The equipment is simply connected to/ disconnect from a power source to power on/off. Users can power the equipment on by one of the following options:

- **24 VAC**: Connect the power input terminal block of the equipment to a 24VAC power source.
- **POE+**: Connect the equipment via a category 5/5e or higer UTP/STP cable to a POE+ (802.3at) compliant router or Ethernet switch.

Note

Please make sure the power source is AC 24V / PoE+. Although the camera can be powered via a PoE+ connection, the PoE+ power source won't be able to drive the camera with its equipped heater being operating simultaneously. Users are supposed only to supply the camera with AC 24V continuously for the heater inside the camera to operate.

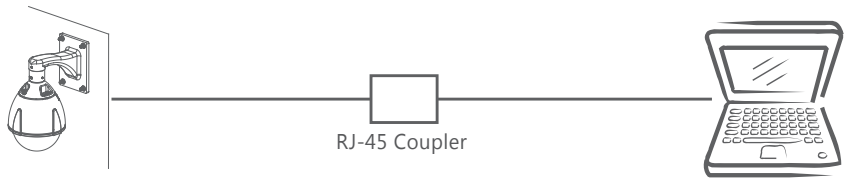
2.1.3 Deployment

There are many different ways that you can connect the camera to your network, depending on your applications requirements. You should always set the camera's network settings according to your network configurations. The following diagrams depict some typical applications with guidelines on network settings. For more information on network settings, always consult with your network administrator or ISP as required.

Type 1: Direct Connection to a PC

Directly connect the RJ-45 cable of the camera to a PC.

To extend the connection length, you should use an RJ-45 female/female coupler to connect two category 5/5e UTP/STP cables together.



Note

Although an RJ-45 coupler is used to extend the connection length, the total length between the PC and the IP camera must not be longer than 100 meters (328 feet). The LAN port of the camera supports auto MDI/MDIX (Medium dependent interface crossover) so there is no need to use cross-over cable.

To access the camera, the PC must be on the same network segment as the camera. The default IP address of the camera is a static one (192.168.1.30). Configure your PC's IP address as 192.168.1.X (where X is a number between 2 to 254 excluding 30) and subnet mask as 255.255.255.0, and then your PC should be able to access the camera.

Type 2: Connection to LAN

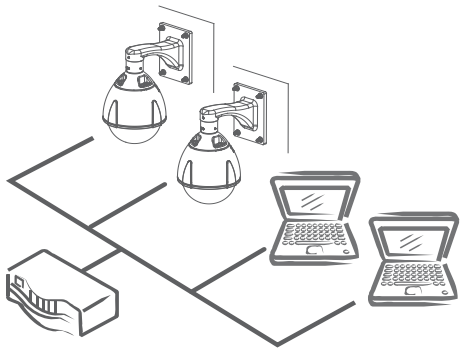
To add the camera(s) to an existing LAN, just connect the camera(s) to the hub or Ethernet switch on your network. If you want to provide the camera power via the Ethernet connection, a PoE compliant hub/switch is required.

Note

The LAN port of the camera supports auto MDI/MDIX (Medium dependent interface crossover) so there is no need for an uplink port or the use of a cross-over cable.

Assign an IP address to your camera following your network IP allocation policy. The IP address can be manually specified by users or by a DHCP server, if available on your network.

Then, you can monitor and mange the camera via a web browser from a local PC.

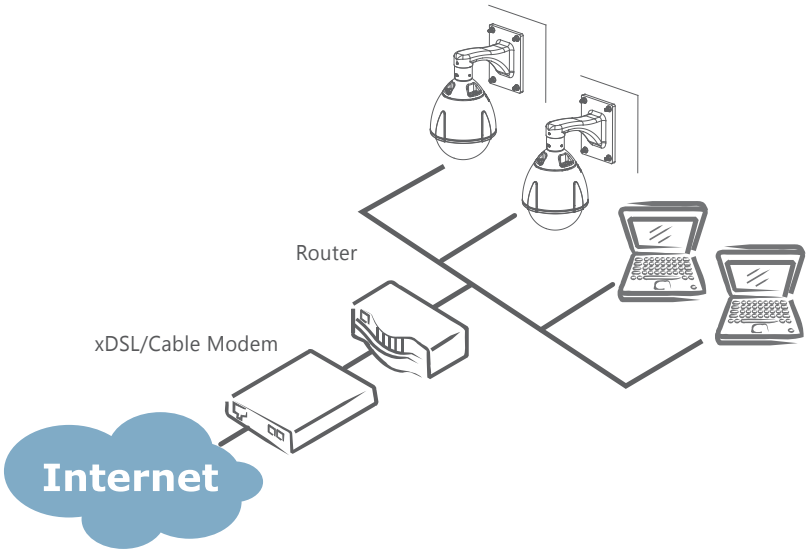


Router/Switch/Hub

Type 3: Remote Connection via the Internet

If the network where the camera resides is connected to the Internet, you can also provide remote access to your camera over the Internet.

Typically a broadband router has a built-in DHCP function to assign a local IP address to your camera. You can alternatively assign a fixed IP address to the camera to prevent it from frequently changing.



To access the camera from a local PC, simply use the local IP address of the camera.

To enable remote access, you must configure your router/firewall to forward an incoming request to that fixed local IP address of the camera. Therefore, when an external host sends a request to access your camera, the request will first reach the router's external IP address and then be forwarded to the local IP address of the camera.

2.2 Acessing the Camera for the First Time

The camera comes with a web-based setup utility, allowing you to view the video of the camera and configure the camera for optimal use in your environment. To access the camera's web-based control utility, you need a PC that meets the following requirements:

- Operating System: Microsoft® Windows® 7, Vista or XP
- Web Browser: Microsoft® Internet Explorer® 8.0 or 9.0
- CPU: Intel® Pentium® 4 Processor 2.4GHz or higher
- Memory: 1GB or more

Note

Administrator's personal computer: The personal computer that is given all authorities for setting, operating, monitoring and other functions with the network camera is called the **administrator's personal computer** in this manual.

Then take the following steps to connect your PC to the camera.

Step 1: UTP/STP Cabling

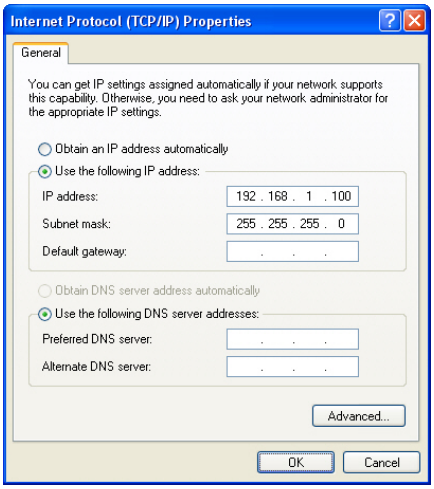
For initial setup purposes, connect the RJ-45 Ethernet cable of the camera to the LAN port on your PC. If you plan to use another Ethernet cable for cabling extension, a UTP/STP category 5/5e cable is necessary.

Step 2: IP Address Configuration for PC

The camera uses a default IP address of 192.168.1.30 and subnet mask of 255.255.255.0. To have your PC on the same network segment with the camera, configure your PC's IP settings as below:

- **IP address:** 192.168.1.X (where X is a number between 2 to 254, excluding 30).
- **Subnet mask:** 255.255.255.0.

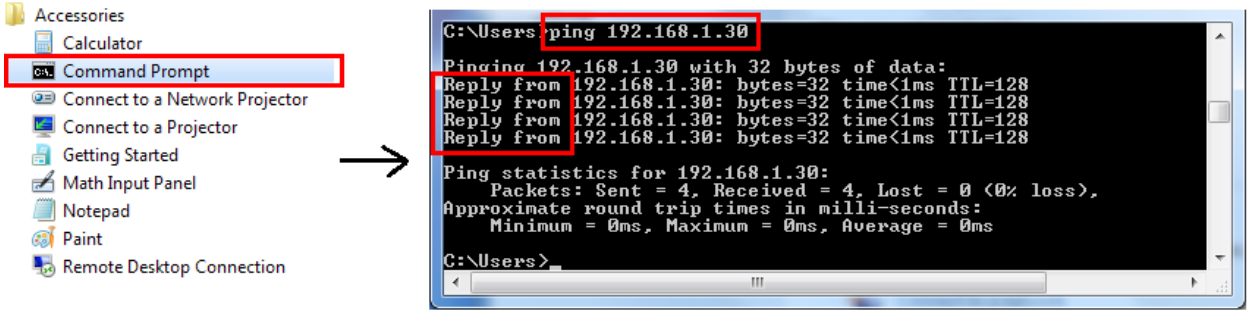
Ignore all other settings and click **OK**.


Internet Protocol (TCP/IP) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address: 192 . 168 . 1 . 100
Subnet mask: 255 . 255 . 255 . 0
Default gateway:
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Advanced...
OK
Cancel

Step 3: Link Verification between PC and Camera

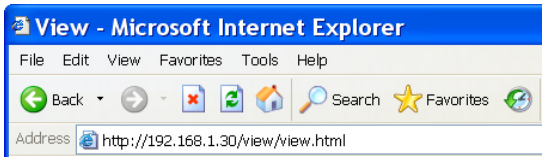
1. Launch the Command Prompt by clicking the bottom left button: **Start** > **Programs** > **Accessories** > **Command Prompt**.
2. At the prompt window, type **ping x.x.x.x**, where x.x.x.x is the IP address of the camera (the default is 192.168.1.30).

   If the message of **Reply from...** responds, it means the connection is established.

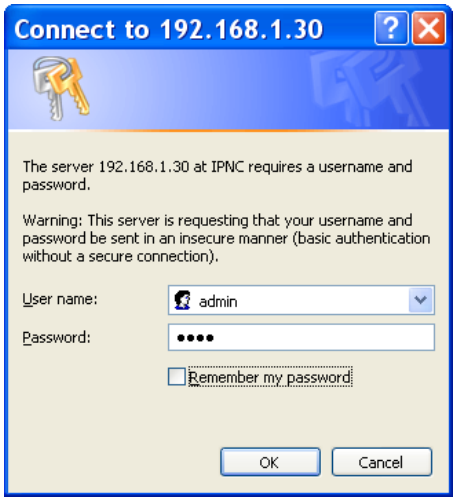


Step 4: Accessing the Camera via IE Browser

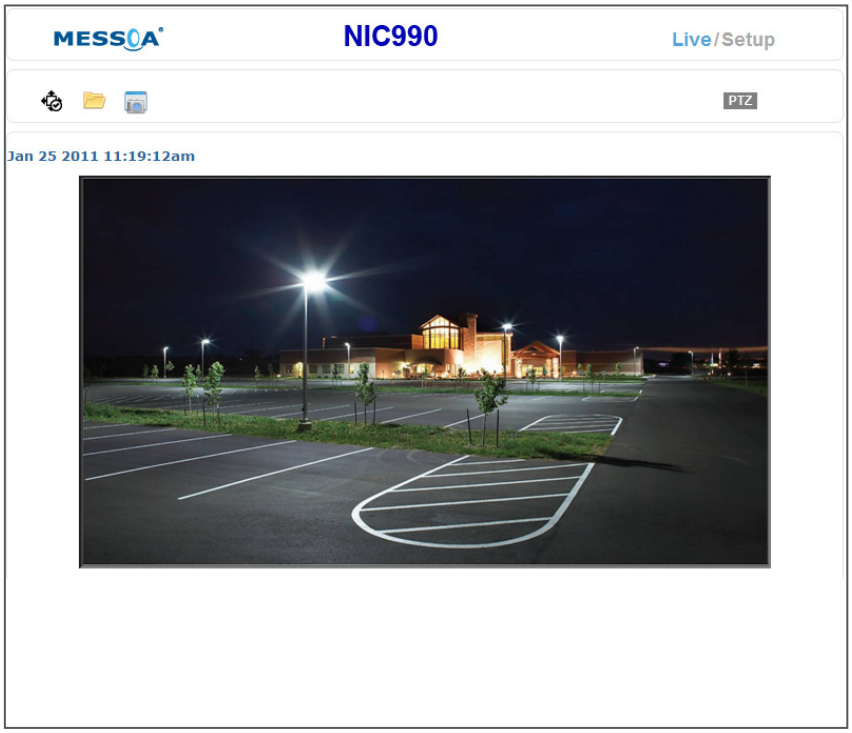
Open the IE browser and enter the IP address of the camera in the URL field. The default is 192.168.1.30.



When prompted for login, enter the user name and the password respectively (The defaults: **admin**, **1234**). Note that the user name and password are case-sensitive.


Connect to 192.168.1.30
The server 192.168.1.30 at IPNC requires a username and password.
Warning: This server is requesting that your username and password be sent in an insecure manner (basic authentication without a secure connection).
User name:
admin
Password:
Remember my password
OK
Cancel

Upon successful login, you will see the live view screen shown as the example below:



2.3 Using “IP Finder” to Manage Cameras

IP Finder is a management tool included on the product CD. It is designed to manage your network cameras on the LAN. It can help find multiple network cameras, set IP addresses, and show connection status.

2.3.1 Installing IP Finder

Before proceeding, make sure your operating system is Windows 7, Windows Vista or Windows XP.

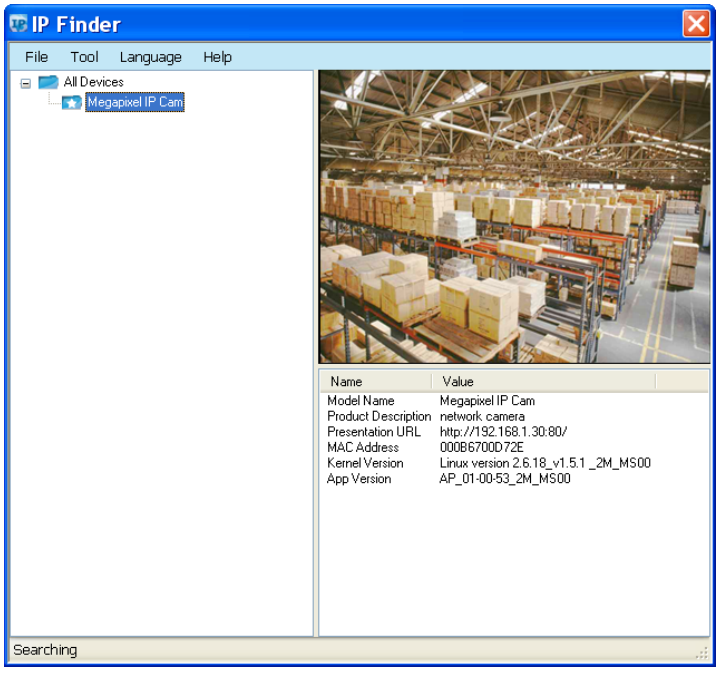
To install the software, simply locate and double-click the **IP Finder** setup file on the provided CD. Then follow the on-screen prompts to proceed.

2.3.2 Using IP Finder

To launch IP Finder, double-click the **IP Finder** shortcut on the desktop or click **Start** > **Programs** > **IP Camera Finder** > **IP Camera Finder**.

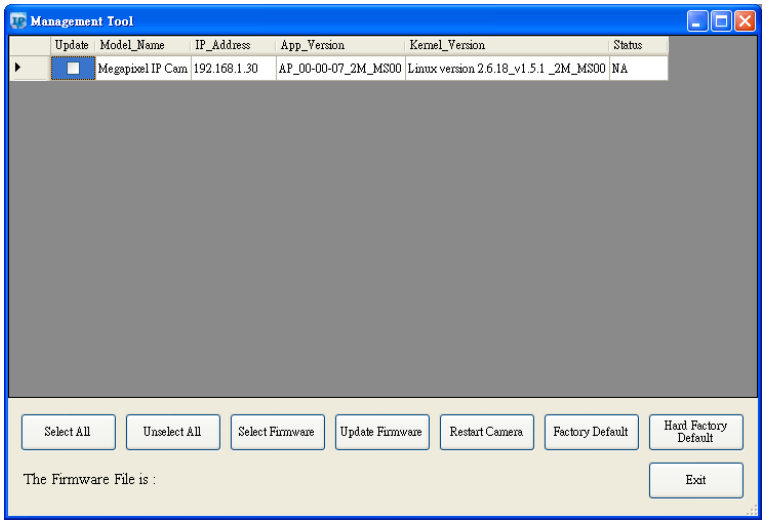
After you launch **IP Finder**, it will search for all the available cameras on the same network. Click the plus sign next to **All Devices** to expand the menu and display all the cameras detected.

Clicking a target camera will show the live view (if available) and the detailed information of the camera, including the MAC address. Each camera comes with a unique MAC address, which is indicated on the product label. It helps identify which camera is currently accessed, particularly when multiple cameras are connected on your network.



The **Tool** menu of the **IP Finder** allows you to perform these tasks:

- **Search Network:** This option allows you to search the cameras on the network.
- **Set Master ID and Password:** Allows you to set a master ID and password for managing the cameras with IP Finder.
- **Management Tool**: Allows you to restart the camera and reset all of the camera settings to default (except network settings).

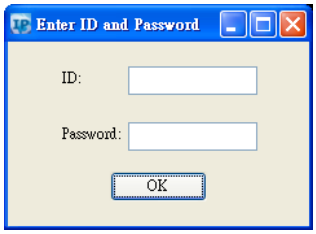


Note

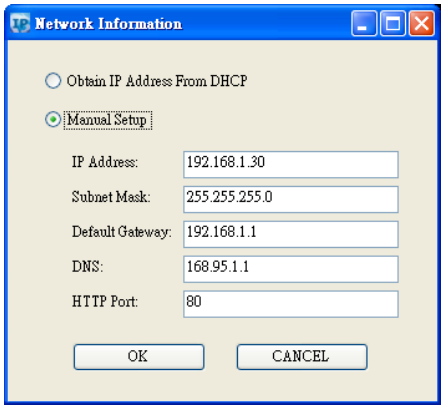
The management tool does't support **Update Firmware** and **Hard Factory Default** functions for NIC990. If users tick the check box to NIC990 followed by clicking either the **Update Firmware** or **Hard Factory Default** button, the message '***The function requested is not supported.***' displays in the status column field.

For an individual camera, right-click the camera and a menu will provide these options:

- **Go to Present URL:** Launch IE browser to access the web-based utility of the camera.
- **Set Device ID and Password:** Set the login ID and password for managing the camera with IP Finder.



- **Network Information:** Allows you to configure the camera's network settings.


Network Information
Obtain IP Address From DHCP
Manual Setup
IP Address:
192.168.1.30
Subnet Mask:
255.255.255.0
Default Gateway:
192.168.1.1
DNS:
168.95.1.1
HTTP Port:
80
OK
CANCEL

3. Web-based Interface

3.1 Live View

Images of the network camera can be viewed through the web browser of your personal computer. If the camera image screen is not displayed, check your browser settings.

Preparations before Displaying

- Enable cookies.
- Change **Security** in Internet options as follows:
  1. Click **Internet Options** on the **Tools** menu.
  2. Click the **Security** tab.
  3. Click the **Intranet** icon if the camera to be operated is inside the intranet; click the **Internet** icon if the camera is on the Internet.
  4. Click the **Custom level...** button.
  5. Check the following radio buttons in the displayed list:
  - **Enable** for **ActiveX control and plug in execute**.
  - **Enable** for **Execution of script of ActiveX control marked safe even when script is executed**.
  - **Enable** for **Download of signed ActiveX control**.
  6. Click **OK**.

Logging in the camera

- Launch the web browser and the camera login dialog window will show up. See **Acessing the Camera for the First Time** section for the log-in process.
- When the security warning screen (VeriSign) appears on the first use of the system, click **Yes**.

After the personal computer setting is changed to **Administrator authorization**, it needs to install **Active-X control**.

In case a proxy server is being used, setting of the browser to bypass the proxy server during communication with the network camera is recommended.

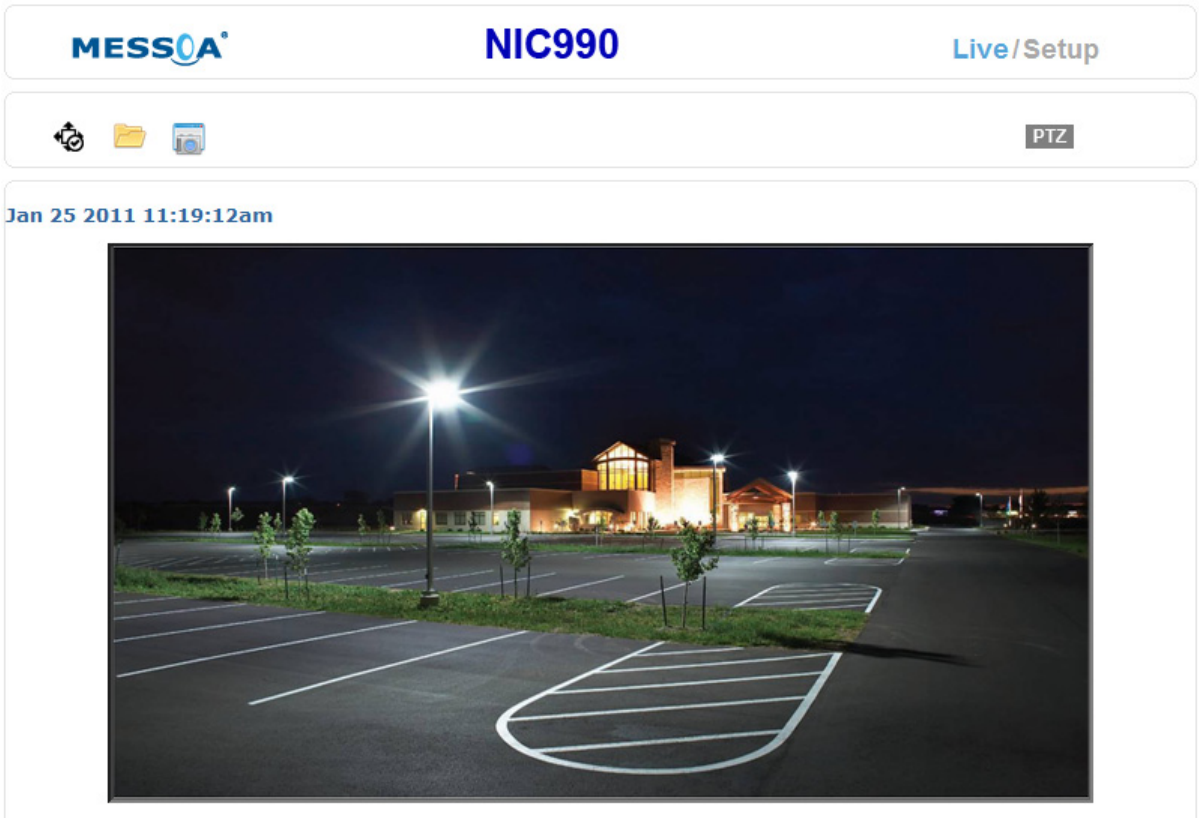
1. Launch the browser.
2. Choose **Internet Options** on the **Tools** menu.
3. Click the **Connections** tab.
4. Click **LAN Settings**.

5. A **Local Area Network (LAN) Settings** dialog window shows up.
6. Check if the checkbox **Will use a proxy server** is ticked. If the checkbox is not ticked, the browser is not set to use a proxy server. Click **Cancel** and quit setting. If the checkbox is ticked, click **Detail setting**. A proxy setup screen will appear.
7. Enter the IP addresses of the network cameras in the field marked **Do not use the proxy server with addresses started with the following**.
8. Click **OK**.

When Windows XP SP2 is used, click **Install** for **Active-X control**.

Note

- A proxy server protected by a firewall sometimes cannot be connected to the network camera. Consult the network administrator so as to avoid impacts on network camera operations.
- Communication with the network cameras via a proxy server may cause some problem. Install the network cameras after consulting the network administrator.
- Using the network cameras via a proxy server sometimes takes a long time till images are displayed after logging in or reduces the frame rate of delivered images.

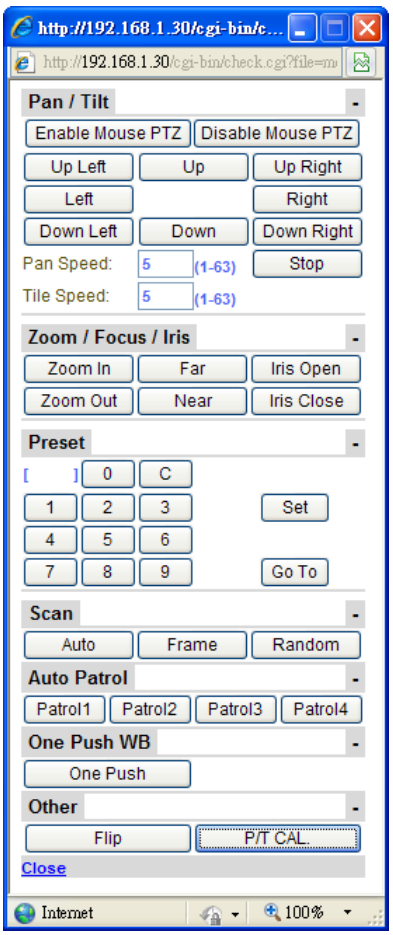


Note

Logging in as an Administrator role allows rewriting of all settings. Therefore, change the administrator login ID and password in place of the default values to make certain camera security. Keep the new administrator login ID and password handy for future use. To change the administrator login ID and password, see the **Password** section.

3.1.1 Using the Live Player - Web

Images of the network camera can be viewed through the web browser of your personal computer. Click the **Live** hyperlink to display live view which is being monitored by the camera. If the camera image screen is not displayed, check your browser settings. And then click the **PTZ** icon to bring the control panle window. The table below gives brief descriptions for the control panel to adjust the camera.

<table>
<tr>
<td> 
</td>
<td>1. Pan/Tilt:
Adjust camera's pan/tilt position and speed by clicking buttons on the control panel or dragging the mouse.

2. Zoom/Focus/Iris:
Click buttons to control zoom/focus/iris of the lens.

3. Preset:
Set up preset positions or move to a specified position.

4. Scan:
Determine a scanning mode including Auto/ Frame / Random.

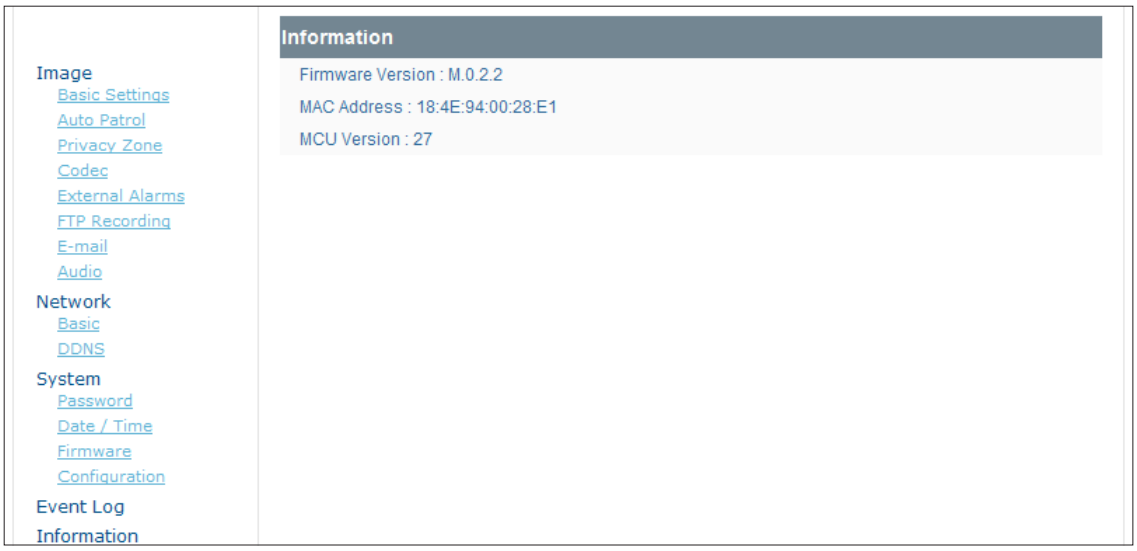
5. Auto Patrol:
Determine one of the auto patrol groups defined before.

6. One Push WB:
Execute one push WB

7. Other:
Flip: Pan 180° from the current position.
P/T CAL: Pan/Tilt calibration.</td>
</tr>
<tr>
<td>Snapshot</td>
<td>Click the icon to take a picture the lens is currently monitoring.</td>
</tr>
<tr>
<td>Snapshot Path</td>
<td>Locate the folder storing pictures or create a new folder.</td>
</tr>
<tr>
<td>Size 1:1/Fix Screen</td>
<td>Users can set image size or fix the screen.</td>
</tr>
<tr>
<td>H.264/JPEG</td>
<td>Choose video compression methods.</td>
</tr>
</table>

3.2 Information

Click the **Setup** hyperlink at the top right-hand corner entering the web interface to configure the IP camera. When you enter the setup interface, the Information page shows up first displaying hardware version, MAC address and MCU version.

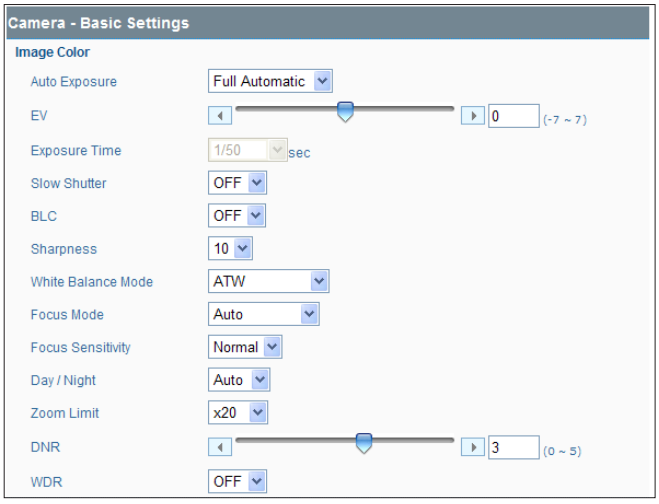


3.3 Image

3.3.1 Basic Settings

Click **Basic Settings** on the left-hand menu. Then the screen of **Camera - Basic Settings** will appear.

Image Color



Auto Exposure: Auto Exposure controls the light intensity of picture. Two types of specific application conditions can be selected. You can select **Full Automatic** or **Shutter Priority** by the

camera depending on your application environment. When **Full Automatic** is selected, the **EV** item is then available.

EV: EV is called exposure compensation that tells the camera for a particular scene you want it either brighter (zero to +7) or darker (zero to -7). The EV value from -7 to 7 is only available in **Full Automatic** mode.

Exposure Time: Exposure Time between 1 and 1/10000 seconds is only available in **Shutter Priority** mode.

Slow Shutter: Click the **Slow Shutter** drop-down menu to choose **Auto** or **Off** (Default).

BLC: The BLC function is to provide optimal exposure of subjects under back light circumstances. Click the BLC drop-down menu to choose **ON** or **OFF** (Default).

Sharpness: Increasing the sharpness value enhances the edges and small features. In your camera images, you can set a sharpness value of image from 0 to 15.

White Balance Mode: Set the white balance values to meet the environment condition for best color rendition. There are 5 modes.

- **ATW**: It ranges from 2000°K to 10000°K.
- **Auto**: It ranges from 3000°K to 7500°K.
- **Indoor**: 3200°K as the basis.
- **Outdoor**: 5800°K as the basis.
- **One Push WB**: Use PTZ Control interface to perform this function.

Focus Mode: There are three modes to choose, the default is **Auto**.

- **Manual**: When selected, users can click **NEAR** and **FAR** buttons (Pan/Tilt control panel) to control focus.
- **Auto**: The Auto mode automatically adjusts the focus position to maximize the high frequency content of the picture in a center. Also, please change near/far to **Focus Near** and **Focus Far**.
- **Zoom Trigger**: In this mode, camera will remain as **Manual** mode unless it receives zoom in or zoom out signal, and after the designated action it will back to **Manual** mode.

Focus Sensitivity: You can set it on **Normal** or **Low**.

Day / Night: Click the drop-down menu to select among **AUTO**, **Day** and **Night** modes. In **Day** mode, you can force the camera to stay in DAY (COLOR) mode all the time; in Night mode, you can force the camera to stay in BW (NIGHT) mode all the time.

Zoom Limit: You can choose x20, x40, x80, x160 or x240.

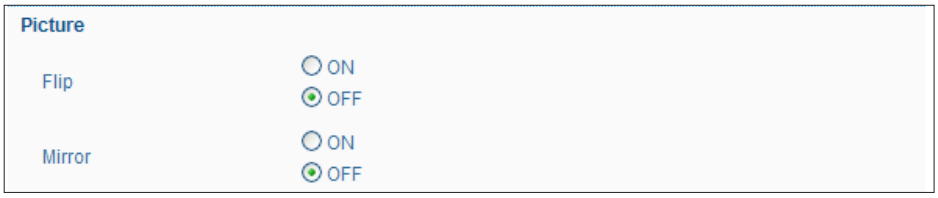
DNR: You can configure the noise reduction related settings from auto to 0~5 and reduce noise on the screen.

WDR: When there are both very bright and very dark areas simultaneously in the field of view, you can enable **Wide Dynamic Range** function. It optimizes an image to ensure that dark areas are more

visible while retaining details in bright areas. Users can set it at **OFF**, **ON, Exposure, Histogram** or **Auto**.

- **OFF/ON**: Click the drop-down menu to disable/enable WDR.
- **Exposure**: Set when the camera is located in a field where light is strong.
- **Histogram**: Set for indoor environments.
- **Auto**: With **Auto** selected, the camera will choose **ON** or **OFF** automatically according to surrounding environment. Note that when set at **ON**, the frame rate is half decreased.

Picture



Flip: Click the radio buttons to enable/disable the function for turning the view image upside down.

Mirror: Click the radio buttons to enable/disable the function for mirroring the view image.

Power up

Click the drop-down menu to set the camera in different modes when power it up.

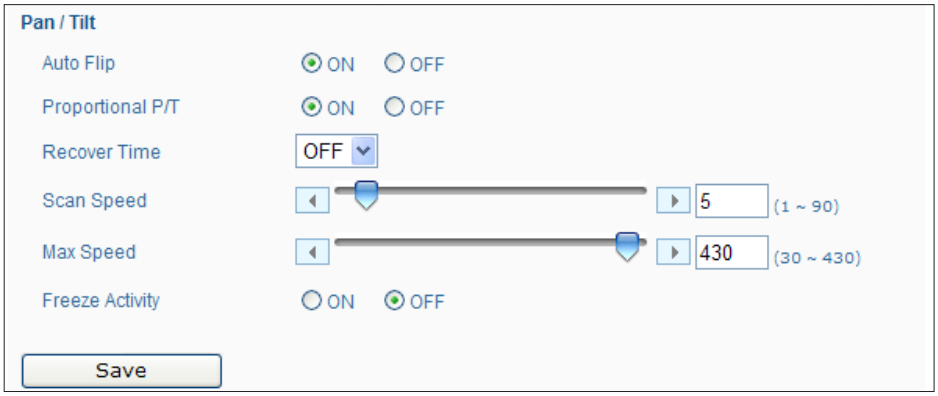
- **Default**: The dome camera will move to its home position.
- **PARK**: The camera will move to preset position 1.
- **Auto Scanning**: Camera will perform Auto scanning.
- **Auto Patrol 1~4**: Camera will perform **Auto Patrol** either 1, 2, 3 or 4.

Tilt Angle

Scan Tilt Angle: Set the elevation of the camera in the range of zero to 92 degrees.

Tilt Angle Mode: Choose the limit value of camera's tilt angle: **Indoor 85°** or **Outdoor 92°**

Pan/Tilt



Auto Flip: Click the radio buttons to select **ON** or **OFF**. The **Auto Flip** feature allows the camera to tilt 180 degrees and to relocate itself for continuous viewing of a moving object directly beneath the camera.

Proportional P/T: Set at **ON** or **OFF**. Proportional P/T controls the pan and tilt speeds according to the zoom factor. In tele mode, the pan and tilt speeds will be reduced for a better usage.

Recover Time: After a preset recover time, the camera will perform the specified action: Random Scan / Frame Scan / Auto Scan / Patrol 1~4 (selectable). Recover Time can be set from 1~120 minutes.

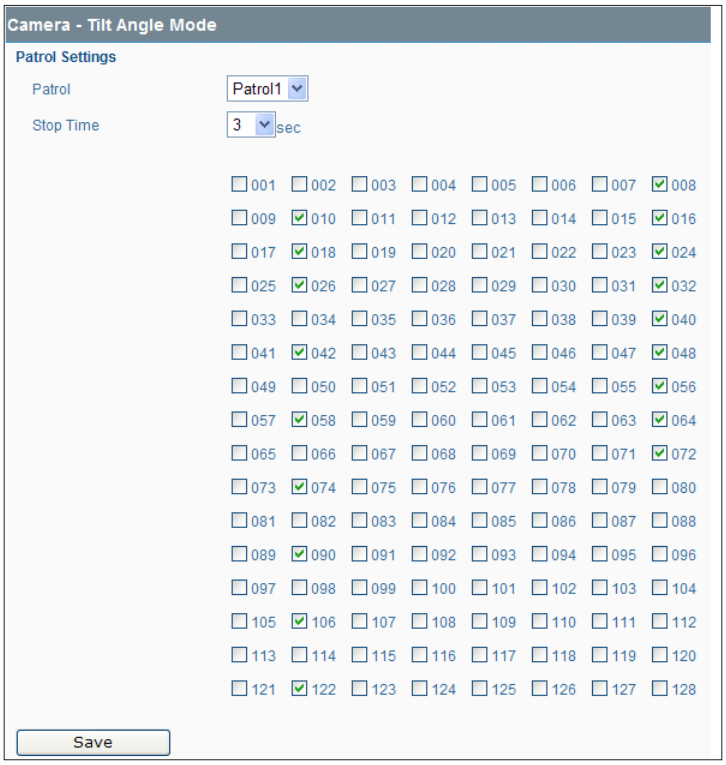
Scan Speed: Speed of Auto / Frame /Random Scan can be set from 1° ~ 90°/s.

Max Speed: P/T max. speed ranges from 30°/s ~ 430°/s.

Freeze Activity: Click the radio buttons to determine **ON** or **OFF**. With **ON** selected, the live image is frozen during the camera moving while performing frame scanning, random scanning or auto patrol functions. The live images will be displayed on the monitor only when the camera is not moving.

When finishing configurations, remember to click the **Save** button to have the configurations take effect.

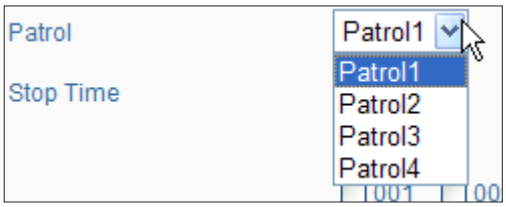
3.3.2 Auto Patrol



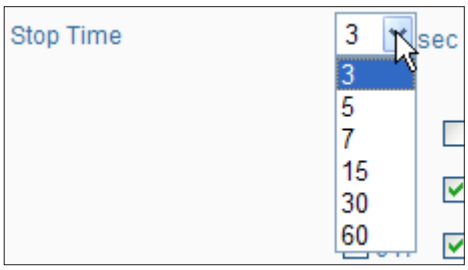
Patrol Settings:

This interface allows users to configure up to four groups of patrolling presets for auto patrol function.

Patrol: Select among the four preset groups by clicking the drop-down menu.



Stop time: Determine stop time among 3, 5, 7, 15, 30 and 60s for auto/ frame /random scan.



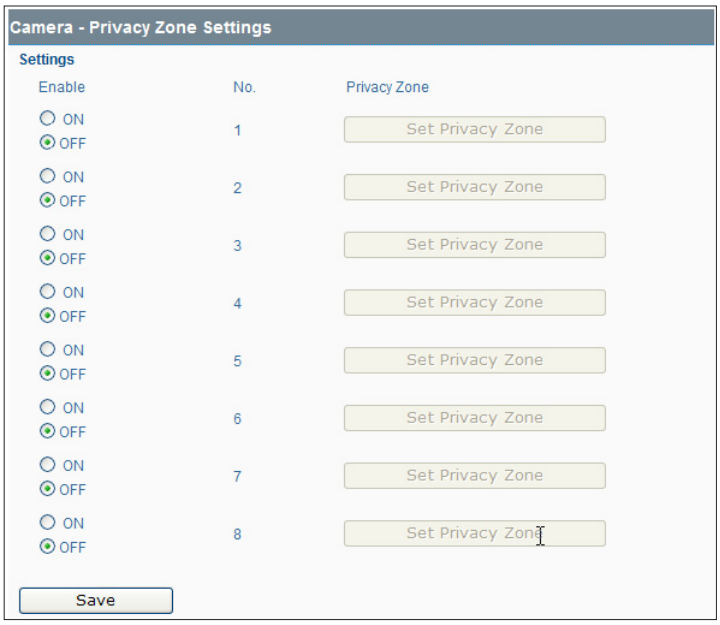
After configuring a specified patrol group and its stop time, uers can tick the check boxes labeled with numbers from 1 to 128 to determine how many stop points for a particular patrol group.

When finishing configurations, remember to click the Save button to have the configurations take effect.

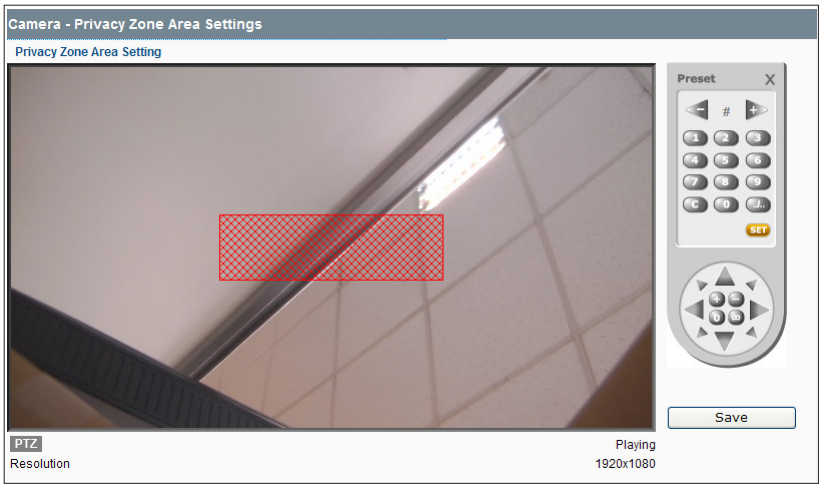
3.3.3 Privacy Zone

Users can define up to eight privacy zone by dragging the mouse to form a rectangular mask on the monitored view to protect necessary privacy. The size and position of these framed areas can be adjusted according to the horizontal pan, vertical tilt, and lens zoom of the camera.

1. Click the **ON** radio button, and then the right-hand button captioned **Set Privacy Zone** will be available.



2. Click the button to bring up the **Privacy Zone Setting** window.
3. You can directly dragging the mouse on the monitored view to create a rectangular mask and then click **Save**.
4. Or click the bottom left-hand **PTZ** button to show the PTZ control panel
   - Use buttons on the control panel to define an appropriate position
   - Drag the mouse on the monitored view to create a rectangular mask and then click **Set**.

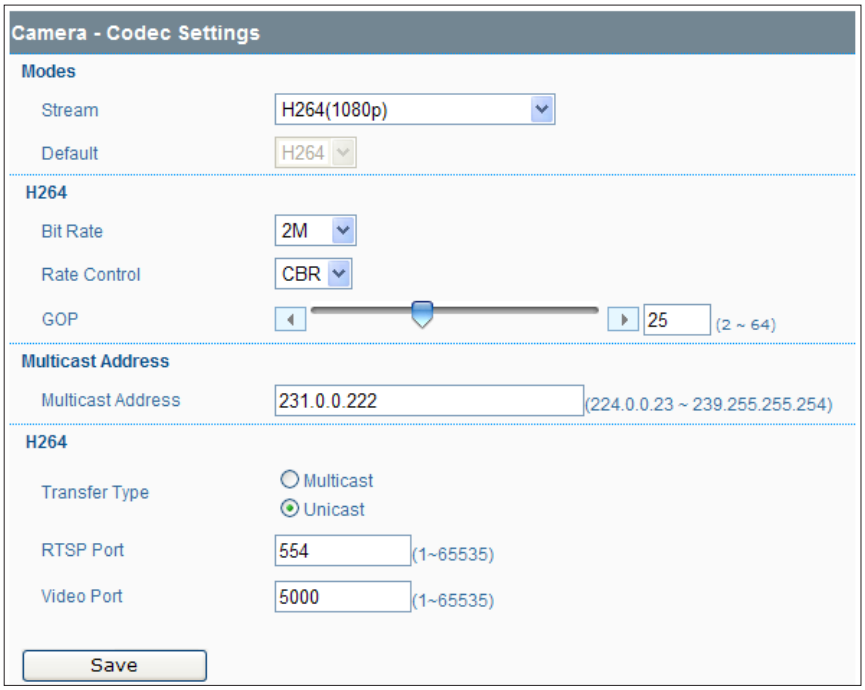


Note

It is recommended to set the privacy zone slightly larger than the actual area to ensure that privacy area is not revealed during movement.
Privacy zone will zoom in/out in accordance with the lens zoom level to ensure the effect.

3.3.4 Codec

1. Click **Codec** on the left-hand menu to display the **Codec Settings** interface.
2. Configure the options described in the table below.



3. Click **Save**.

Video Codec mode	H.264	MJPEG
Resolution	Higher resolution results in larger image sizes. You can choose: H264 (1080P) H264 (720P) + MJPEG (720P) H264 (480P) + MJPEG (480P) H264 (VGA) + MJPEG (VGA) H264 (VGA) + MJPEG (QVGA) H264 (QVGA) + MJPEG (QVGA) H264 (720P) + MJPEG (CIF) H264 (720P) + MJPEG (QVGA)	
Bit Rate	Select the desired bit rate including 256, 512, 1M, 2M, 4M and 8M kb/s.	-
Rate Control	Select the desired bit rate control between CBR and VBR.	-
GOP	Select the desired GOP (group of pictures) length ranging from 2 ~ 64.	-
Image Quality	-	Select the desired image quality including Low, Mid and High.
Multicast Address	Specify the multicast address (e.g. of the switch or router)	
Transfer Type	Select **Unicast** or **Multicast**. In **Multicast** mode camera supports IGMP.	
RTSP Port Number	Specify the port number you would like to use for RTSP protocol, from 1 to 65535, default is 554.	Specify the port number you would like to use for RTSP protocol, from 1 to 65535, default is 555.
Video Port Number	Specify the port number you would like to use for video streaming, from 1 to 65535, default is 5000.	Specify the port number you would like to use for video streaming, from 1 to 65535, default is 5010.

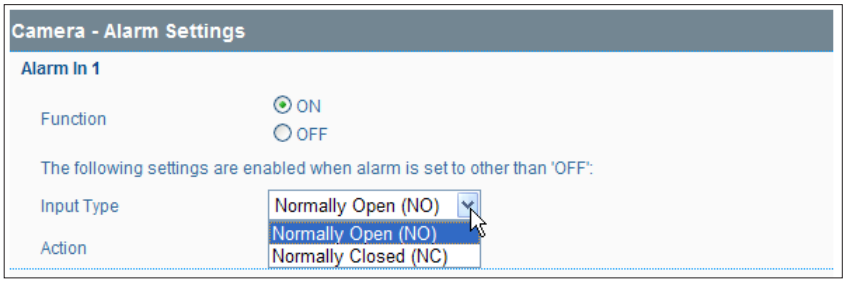
Note

- There are two streams are available for codec mode selection. Both MJPEG and H.264 are effective.
- It supports up to three simultaneous unicast users for max. connections of real time.

3.3.5 External Alarms

The camera is equipped with six alarm input terminals and one output terminal and each alarm contains 32 preset actions. When any one of the six alarm is triggered, the camera will immediately move to the preset position.

Alarm Input

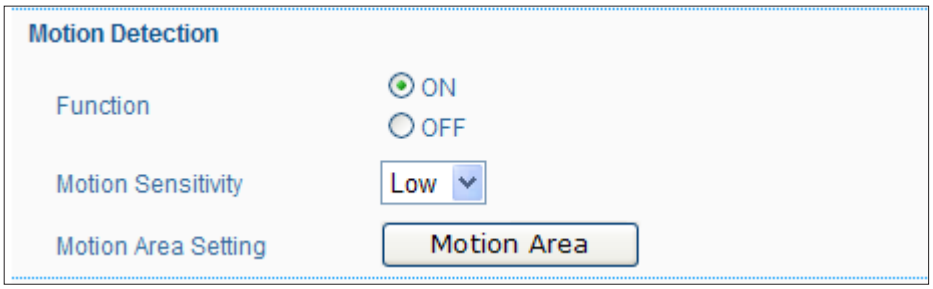


1. Click the **ON** radio button to enable the six **Alarm In** functions.
2. **Input Type:** Set the alarm contact type on **Normal Open** or **Normal Close**. For alarm input type, the active state is always **Normal Open**.
3. **Action**: Specify the action to be taken when an alarm is triggered. No action will be taken if the drop-down menu is set at **OFF**.

Note

The **Input Type** and **Action** settings are available when the particular alarm-in function is not set at **ON**.

Motion Detection

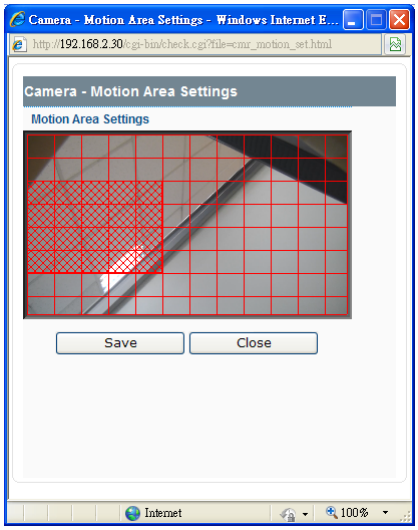


Function: Click the **ON** radio button to enable motion detection. Any motion on the monitored view will be sensed and then an alarm is triggered. Click OFF to disable motion detection.

Motion Sensitivity: High: An alarm is triggered for slight change in motion or brightness of the monitored view.

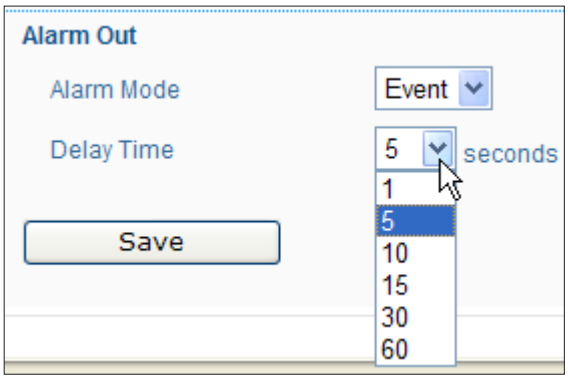
- **Mid**: Intermediate between **HIGH** and **LOW**.
- **Low**: An alarm is triggered for a significant change in brightness or motion.

Motion Area Setting: Click the **Motion Area** button and then a **Motion Area Settings** window shows up. Drag the mouse to define the detection area. Finally click **Save** to have the configurations take effect.



Alarm Output

Click the drop-down menu to set **Alarm Mode** at **OFF**, **Event** or **Extra**. When the mode is set at **OFF**, this function is disabled. With **Event** selected, if any one of the alarm inputs is triggered, the camera will send a warning through the alarm output. Also users are supposed to set **Delay Time** on 1, 5, 10, 15, 30 or 60 seconds for relaying the alarm. As for **Extra**, this option is for advanced users to enter cgi commands in the URL of the web browser. It's used to check whether the alarm-out can function normally.



3.3.6 SD Card Recording

You can save image files to the SD card. This item will not shows up on the left-hand menu if an SD card is not installed in the camera.

Note

- The camera supports SDHC (Secure Digital High Capacity) card up to 32GB storage capacity. Before removing or inserting the SD card, remember to shut down the camera.
- If users can't access the SD card, please visit the web site at **https://www.sdcard.org/downloads/formatter_3/** to download the **SD Formatter** tool.

When you click SD Card Recording on the left-hand menu, a message dialog box will pop up if the stream mode is set on H264 (1080p). To start configuring SD Card recording users are supposed to set stream mode on options other than H264 (1080p). Please refer to the **Codec** section for further details.

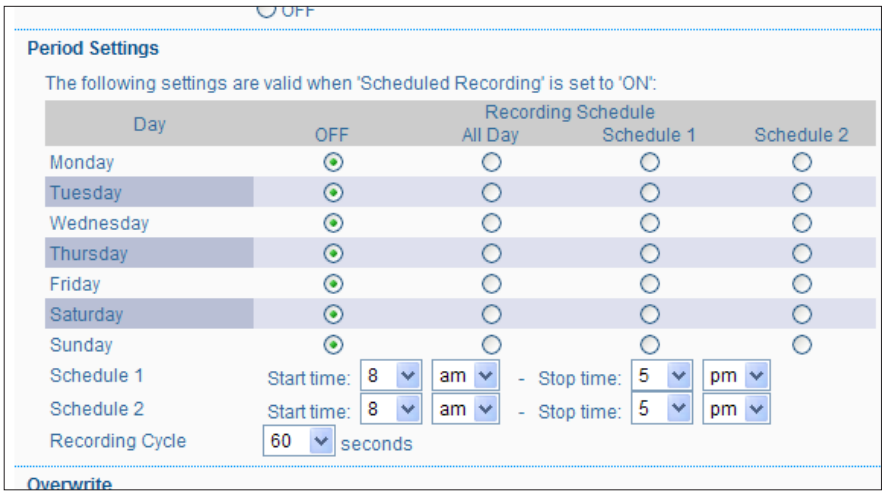
Recording Settings

Trigger Mode: Configure the triger modes to store image files according to the scheduled recording plan or the moment an event occurs.

- **Scheduled Recording**: By clicking the **Scheduled Recording** radio button, the **Schedule Settings** interface which needs to be configured as a scheduled recording plan will then be shown at the bottom of the screen.
- **Event Recording**: By clicking this radio button, the **Event Recording Settings** will then be shown at the bottom of the screen.
  - **Alarm In**: This check box is available only when any of the six **Alarm In** items is set at **ON** (see the ***External Alarms*** section). Tick the check box to enable the event recording if an alarm input occurs.
  - **Motion Detection**: This check box is available only when the **Motion Detection** function is set at ON (see the ***External Alarms*** section). Tick the check box to enable the event recording if a motion detection event occurs.
- **OFF**: Default setting.

Period Settings

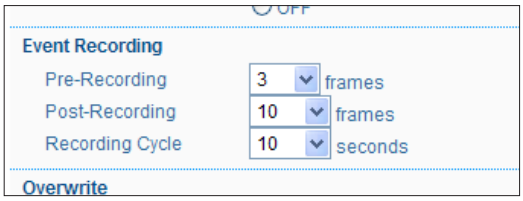
This interface shows up beneath the ***Recording Settings*** only when the ***Scheduled Recording*** radio button is selected.



- **Recording Schedule**: Determine the recording condition: **OFF**, **All Day**, **Schedule 1** or **Schedule 2** from the recording schedule table for all days from Monday to Sunday.
- **Schedule 1/Schedule 2**: After selecting either **Schedule 1** or **Schedule 2** radio button, users are supposed to specify the start/stop time by clicking the drop-down menus respectively.
- **Recording Cycle**: Click the drop-down menu to specify a time interval in seconds for recording images.

Event Recording Settings

This interface shows up beneath the ***Recording Settings*** only when the ***Event Recording*** radio button is selected.



The recording is triggered by alarm-in or motion detection according to the check boxes in the ***Recording Settings*** you have ticked. Please finish the configurations as follows.

- **Pre-Recording:** Set the number of images to be recorded before an event (alarm or motion detection) occurs. Images of the moment when an event occurs are not included. Options including 0, 3, 5, 10 frames are selectable by clicking the drop-down menu.
- **Post-Recording:** Set the number of images to be recorded immediately after an event (alarm or motion detection) occurs. Images at the moment when an event occurs are not included. Options including 0, 3, 5, 10, 20, 60, 120 frames are selectable by click the drp-down menu.
- **Recording Cycle:** Set the time interval for recording at least one second and up to 180 seconds.

Overwrite

Click **ON** to enable overwriteing if the SD card has used up its storage capacity. With **OFF** selected, the system will stop writing to the SD card.

Click **Save** to have the configuration take effect.

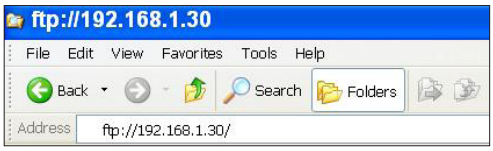
Recording Files

- Click **Delete All** to empty the SD card.
- Click **Delete Event Recording Files** to delete all files stored by event recording.
- Click **Delete Schedule Recording Files** to delete all files stored by scheduled recording.

Accessing SD Card

Note

Users can access the SD card via the FTP service by entering the FTP address (**ftp://192.168.1.30** by default) in the URL field of the web browser.



Then an FTP login window shows up asking for login ID and password. After filling in the login ID and password fields (defaults are **admin** and **1234** respectively), you can see the the FTP directory with successful login.

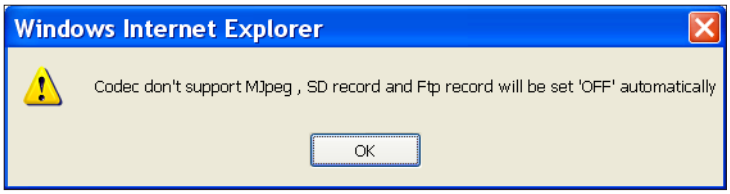
Log On As
Either the server does not allow anonymous logins or the e-mail address was not accepted.
FTP server: 192.168.1.30
User name: admin
Password: ••••
After you log on, you can add this server to your Favorites and return to it easily.
FTP does not encrypt or encode passwords or data before sending them to the server. To protect the security of your passwords and data, use Web Folders (WebDAV) instead.
Learn more about using Web Folders.
Log on anonymously
Save password
Log On
Cancel

Besides, users can also just launch the **Windows Explorer** to access SD card. The same, users are supposed to enter the FTP address (**ftp://192.168.1.30** by default) in the address field and finish login process. Then you can directly get into the directory.

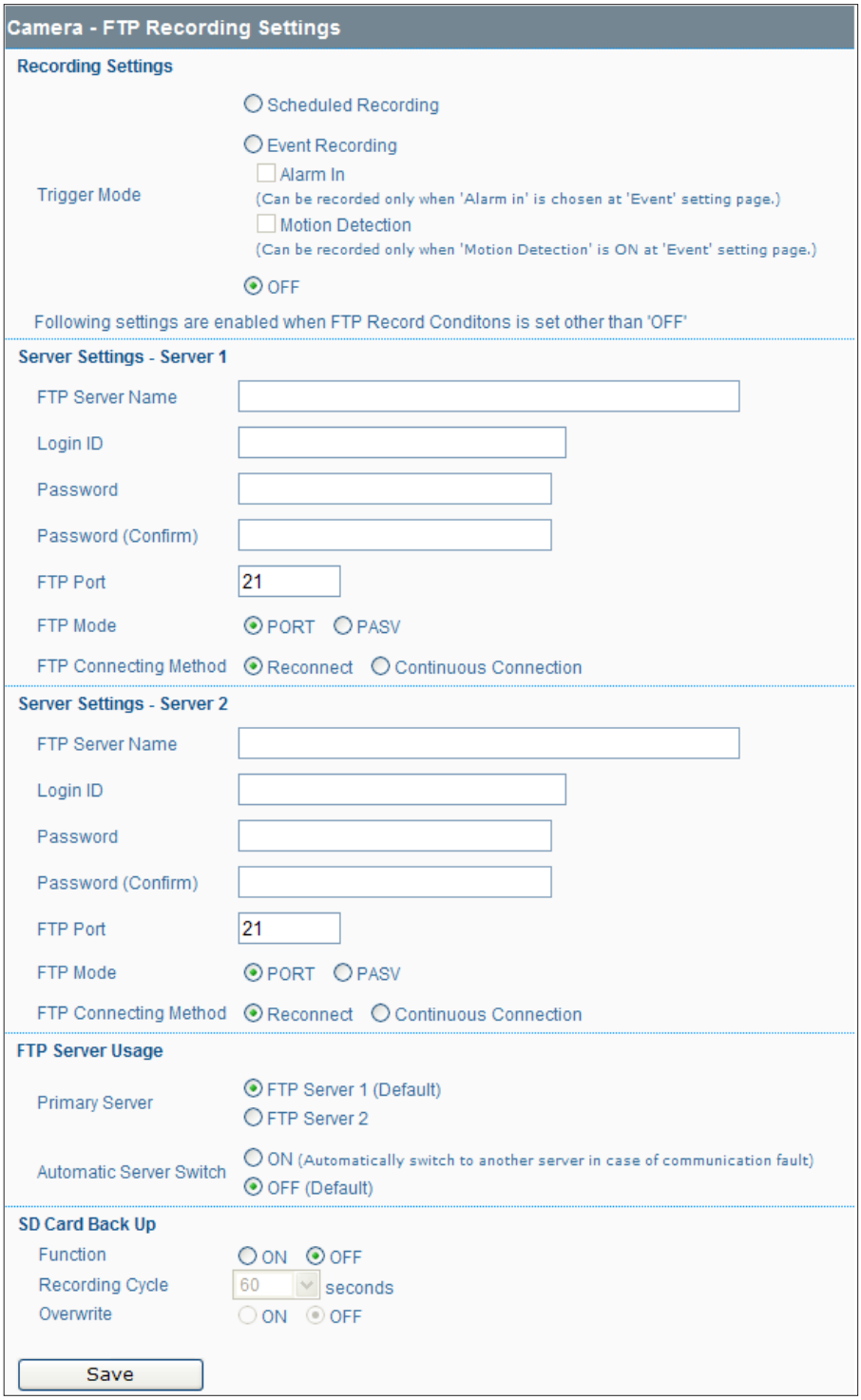
3.3.7 FTP Recording

You can save image files via FTP. Configure your FTP recording condition first, and then identify your FTP sever 1 and 2.

When you click FTP Recording on the left-hand menu, a message dialog box will pop up if the stream mode is set on H264 (1080p). To start configuring FTP recording users are supposed to set stream mode on options other than H264 (1080p). Please refer to the **Codec** section for further details.



Recording Settings



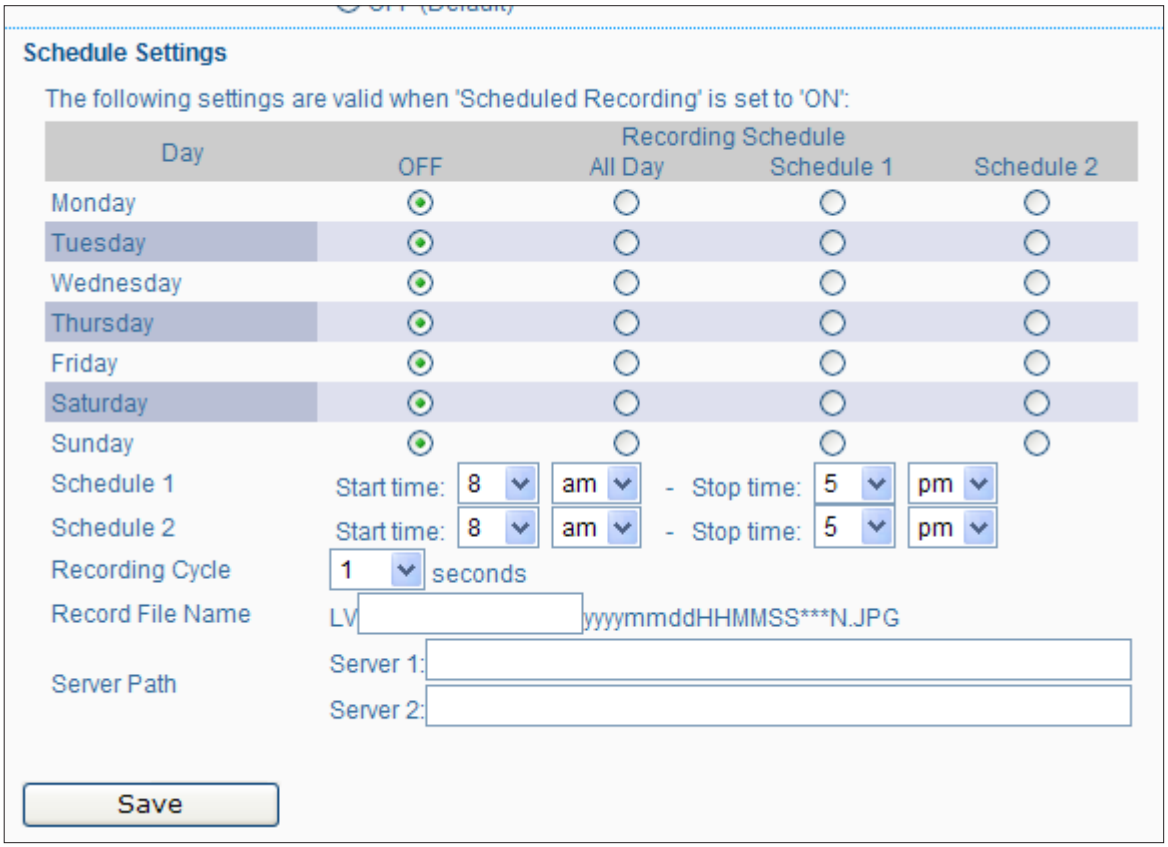
Trigger Mode

You can store your image files based on your scheduled recording, recording by alarm or recording by motion detection.

- **Scheduled Recording**: By clicking the **Scheduled Recording** radio button, the **Schedule Settings** interface which needs to be configured as a scheduled recording plan will then be shown at the bottom of the screen.
- **Event Recording**: By clicking this radio button, the **Event Recording Settings** will then be shown at the bottom of the screen.
  - **Alarm In**: This check box is available only when any of the six **Alarm In** items is set at ON (see the ***External Alarms*** section). Tick the check box to enable the event recording if an alarm input occurs.
  - **Motion Detection**: This check box is available only when the **Motion Detection** function is set at ON (see the ***External Alarms*** section). Tick the check box to enable the event recording if a motion detection event occurs.
- **OFF**: Default setting.

Schedule Settings

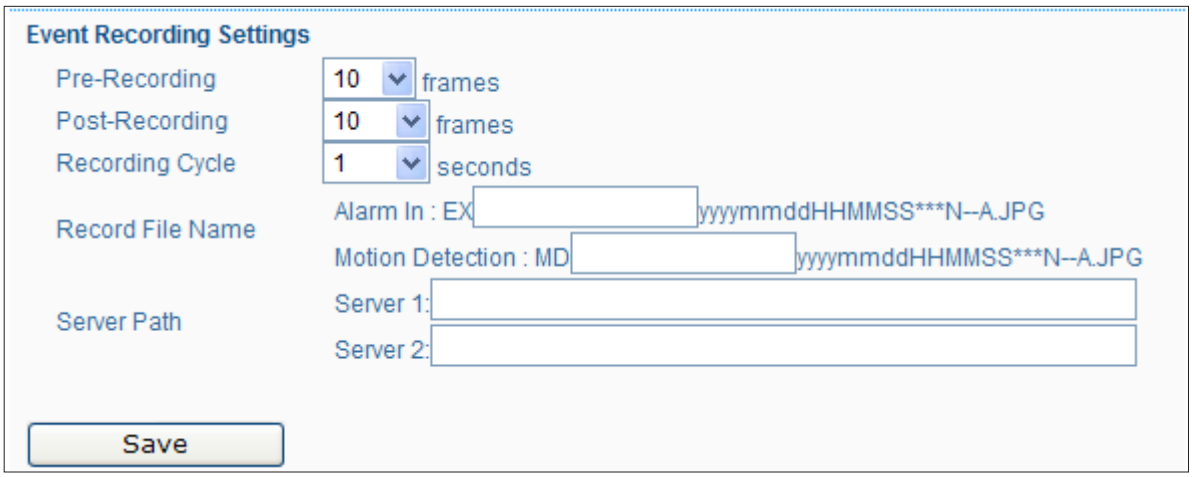
This interface shows up at the bottom of this page only when the ***Scheduled Recording*** radio button is selected.



- **Recording Schedule:** Click radio buttons to determine OFF, All Day, Schedule 1 or Schedule 2 from the recording schedule table.
- **Recording Cycle**: Set a time interval for recording images.
- **Recording File Name:** Specify the file name for files to be stored on the server.
- **Server Path:** Type in the fields with data path where the data is to be stored on the server.

Event Recording Settings

This interface shows up at the bottom of this page only when the ***Event Recording*** radio button is selected.



The scheduled recording is triggered by alarm-in or motion detection according to the check boxes in the Recording Settings you have ticked. Please finish the configurations as follows.

- **Pre-Recording:** Set the number of images to be recorded before an event (alarm or motion detection) occurs. Images of the moment when an event occurs are not included. Options including 0, 3, 5, 10 frames are selectable by clicking the drop-down menu.
- **Post-Recording:** Set the number of images to be recorded immediately after an event (alarm or motion detection) occurs. Images at the moment when an event occurs are not included. Options including 0, 3, 5, 10, 20, 60, 120 frames are selectable by click the drp-down menu.
- **Recording Cycle:** Set the time interval for recording.
- **Record File Name:** Specify the file name for files to be stored on the server.
- **Server Path:** Type in the fields with data path where the data is to be stored on the server.

Server Settings - Server 1/2

Please follow your FTP settings to set up FTP server name, Login ID, Password, FTP port number, FTP mode, and FTP connecting method.

- **FTP server name**: Input a server name or address.
- **Login ID**: Limited only to users who have authority to access the server.
- **Password**: Input the registered password associated with Login ID.
- **Password (Confirm)**: Re-enter the password.
- **FTP Port Number**: Set '21' by default.
- **FTP Mode**:
  - **PORT mode:** This mode is for most FTP applications.
  - **PASV mode:** This mode is for the camera's network environment that is behind a firewall.

FTP Connecting Method:

- **Reconnect:** The network camera logs in/out for each file transfer.
- **Continuous Connection:** The network camera is always in connection.

FTP Server Usage

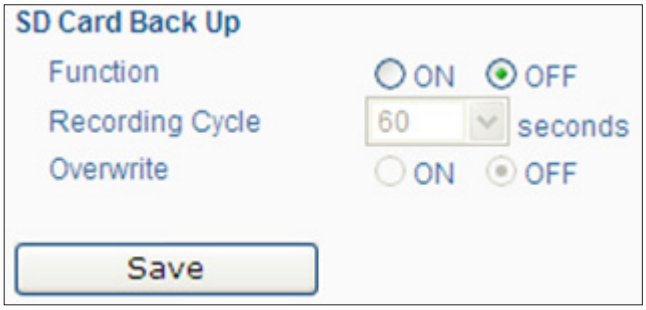
You can choose to save your image files to either FTP server 1, 2, or automatically switching servers.

Primary Server: Define FTP server 1 or 2 as the primary server for saving image files.

Automatic Server Switch: Select 'ON' if the FTP server is to be automatically switched to the secondary server in case the primary server is not available.

SD Card Back Up

You can also configure the SD Card Back Up settings for data storage redundancy.



The network camera automatically store images in the SD card when images cannot be recorded in the server due to a network failure, or other troubles. The stored images can be transferred to the FTP server when the network status or other troubles are resolved.

- **Function**: Select ON to active SD card FTP backup function.
- **Recording Cycle**: Set a time interval in seconds for recording images to be stored.
- **Overwrite**: Overwrite the oldest file when the SD card is full.

3.3.8 E-mail

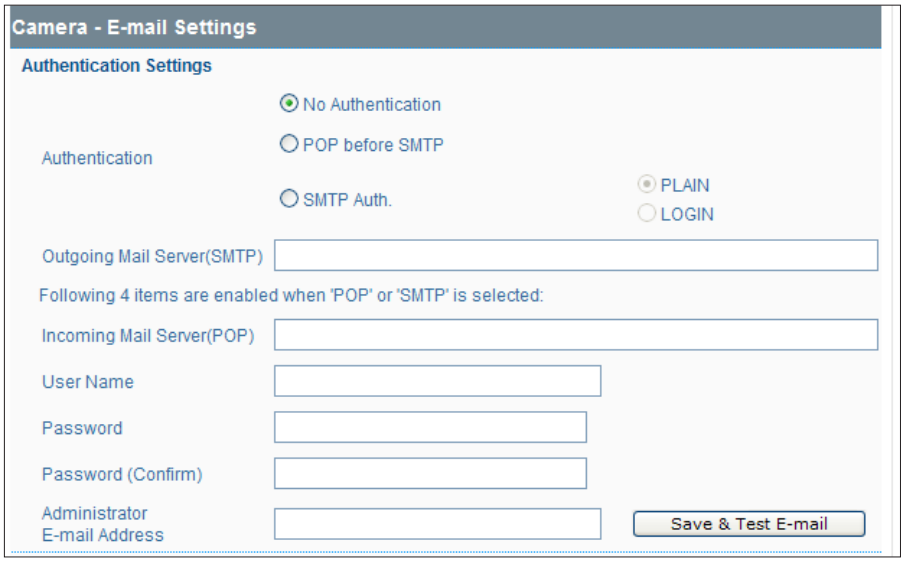
Specify your e-mail account to receive images.

Authentication Settings

Authentication

- **No Authentication:** no restrict rule.
- **POP before SMTP:** A protocol that defines an email server and a way to retrieve mail from it. Incoming messages are stored at a POP server until the user logs in and downloads the messages to their computer.
- SMTP Auth: Simple Mail Transfer Protocol (SMTP) is an Internet standard for electronic mail (e-mail) transmission across Internet Protocol (IP) networks.

- **PLAIN:** PLAIN is the name of a registered SASL authentication mechanism, which is supplied as a parameter to the AUTH command. The PLAIN authentication mechanism is described in RFC 2595. PLAIN is the least secure of all the SASL authentication mechanisms, since the password is sent unencrypted across the network.
- **LOGIN:** The LOGIN mechanism is supported by Microsoft's Outlook Express, as well as by some other clients.



- **Outgoing Mail Server (SMTP):** Assign your outgoing mail server (SMTP).
- **Incoming Mail Server (POP):** Assign your incoming mail server (POP).
- **User Name:** Input your e-mail account.
- **Password:** Input your e-mail account password.
- **Password (Confirm):** Confirm your e-mail password.
- **Administrator E-mail Address:** Input your e-mail address.

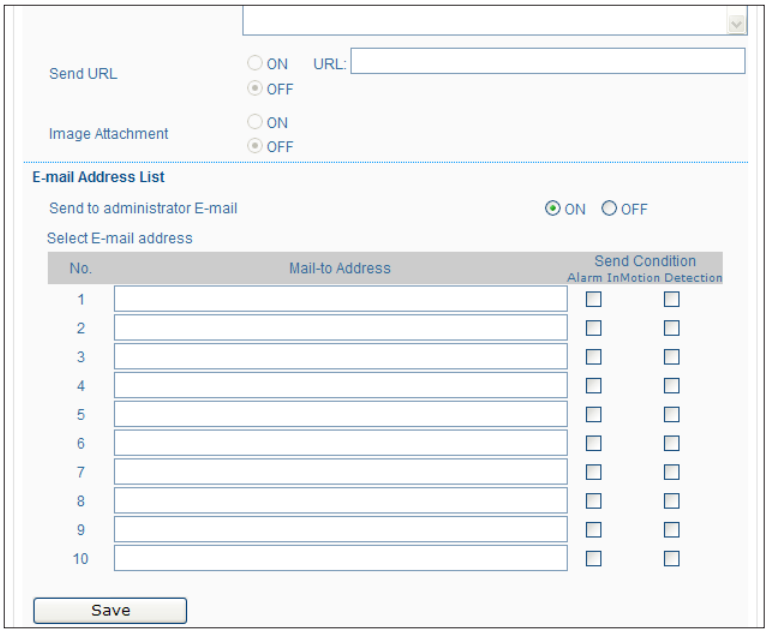
Click the **Save & Test E-mail** button to save your settings and to test your e-mail settings.

Alarm In & Motion Detection E-mail Notification

Set the 'Function' radio button at ON to enable the following fields. Fill in the fields with related information to send E-mail when an event (alarm-in or motion detection) occurs.

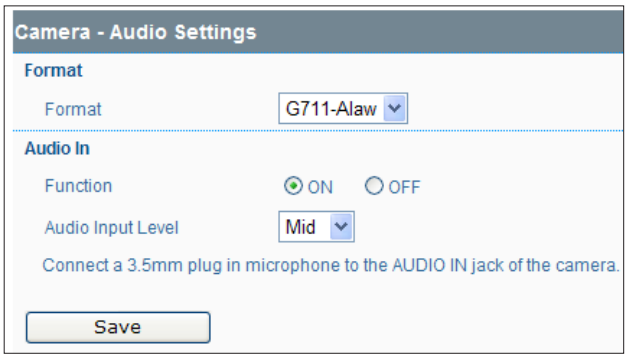
E-mail Address List

Click the 'ON' radio button to enable sending E-mail to the administrator when events occur. Besides, you can also assign a list of recipients to receive E-mail triggered by alarm-in or motion detection event.



3.3.9 Audio

Specify the audio codec method and audio input level.



Format

Click the drop-down menu to select audio codec formats of PCM, G711-Alaw and G711-Ulaw.

Audio In

- **Function**: Set at **ON** to receive audio from a microphone connected to the camera.
- **Audio Input Level**: **Low** / **Mid** / **High** selectable.

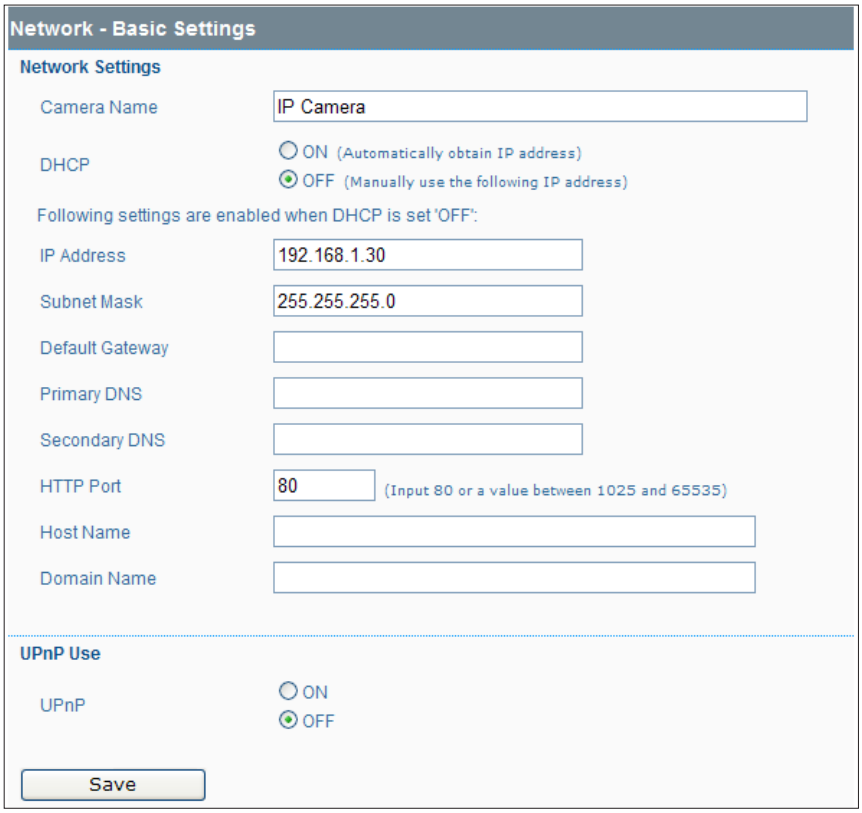
3.4 Network

3.4.1 Basic

Network Settings

- **Camera Name:** Enter your camera name or use the default name.
- **DHCP (factory default):** The IP address is automatically obtained when you select 'ON'; select 'OFF' to manually configure the network setting in the following fields.
- **IP Address:** Input your IP address here when you select DHCP off. The default IP address: 192.168.1.30.
- **Subnet Mask:** Please use default mask: 255.255.255.0. If the subnet mask is not properly configured, the camera may not be able to communicate with other devices on the network.
- **Default Gateway:** The field is left blank by default. It is not necessary to enter Default Gateway if it is not used. Ask your network administrator for Default Gateway information.
- **Primary DNS:** Same as above.
- **Secondary DNS:** Same as above.

- **HTTP Port:** We recommend using the default port (80). If you need to change the port number, please contact your system administrator. The port number should be in the range between 1025 and 65535.
- **Host Name:** Specify the host name.
- **Domain Name:** Specify the domain name.



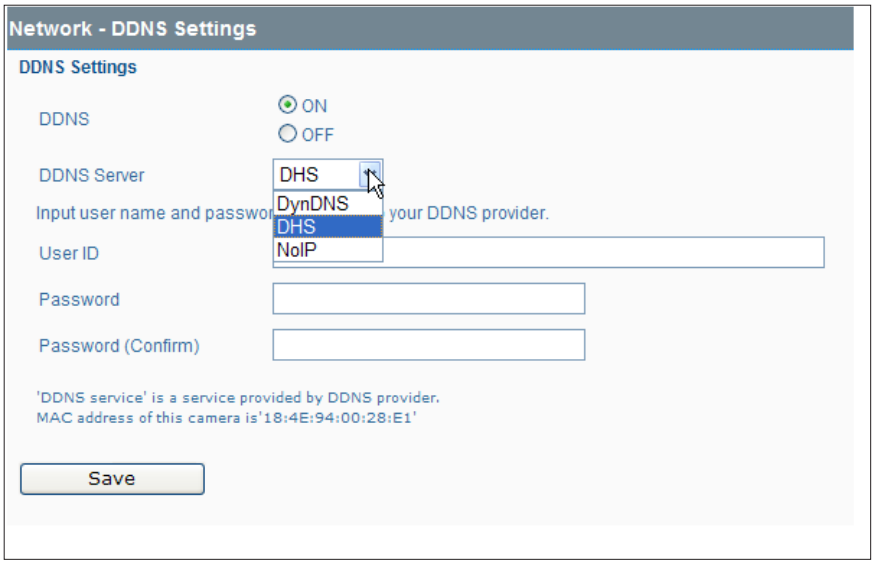
UPnP Use

- **UPnP:** When **ON** is selected, the camera can be detected automatically by the PC. Therefore, it is not necessary to install the IP Camera Finder program.

Note: Please click the **Save** button to save your image settings.

3.4.2 DDNS

DDNS is a service provided by DDNS provider. In this page, you can configure DDNS settings.



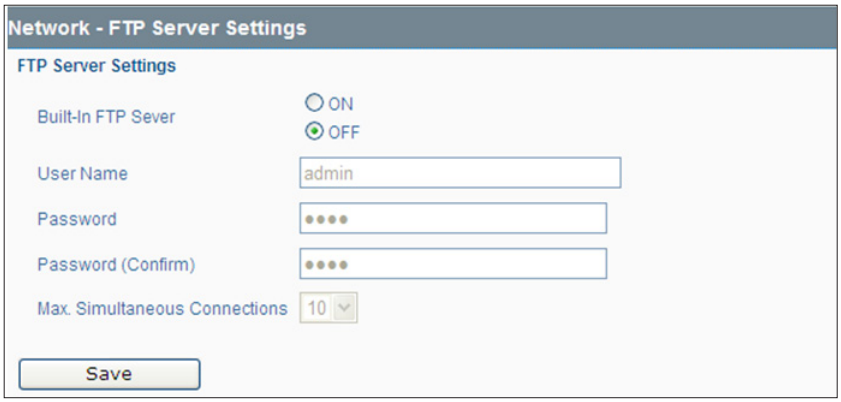
- **DDNS:** Click 'ON' to activate the DDNS function or 'OFF' to disable the DDNS function.
- **DDNS Server:** Click the drop-down menu to select a DDNS server including DynDNS, DHS and NoIP.
- **User ID:** Fill in the field with a user's ID.
- **Password:** Enter a password associated with the user ID.
- **Password (Confirm):** Re-enter a password to confirm it. Finally, click Save to save the settings.

3.4.3 FTP Server

In this page, you can activate the built-in FTP server function on the SD card.

- **Built-in FTP Server:** Click 'ON' to activate the built-in FTP server. Then specify the following fields with valid information.
- **User Name:** Enter a login ID if you activate the FTP function.
- **Password:** Enter a password associated with a login ID.
- **Password Confirm:** Re-enter the password to confirm it.
- **Max Simultaneous Connections:** Determine the number of maximum connections by selecting a number from the drop-down list.

.

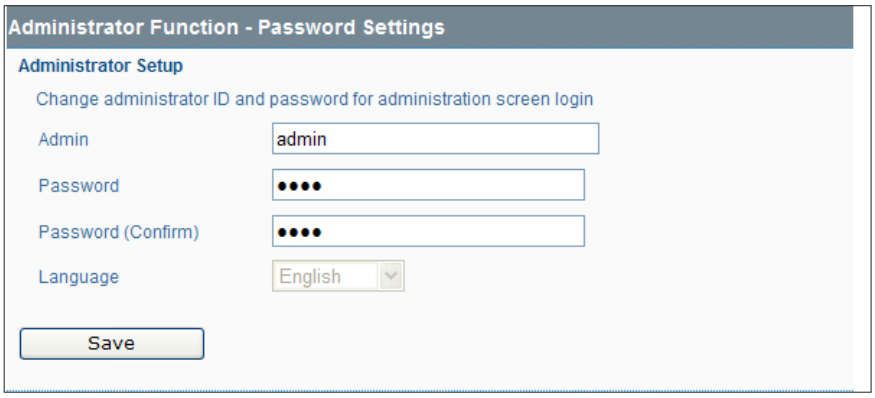


When finished, click the **Save** button to have the configuration take effect.

3.5 System

3.5.1 Password

Administrator Setup

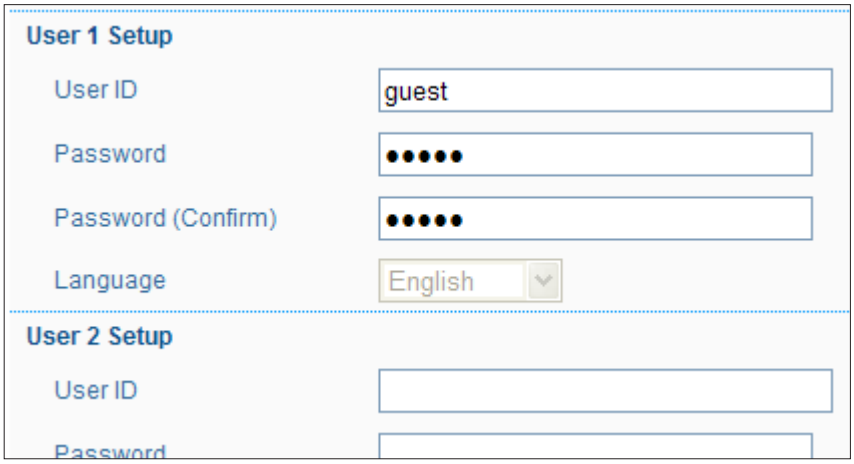


Click **Password** on the left-hand menu to display the **Administrator Setup** interface. The default values for system Admin ID and password are:

- Admin. ID: **admin**
- Password: **1234**

Here you can change your own Admin ID and password. Aftert setting is done, click **Save** to have the configurations take effect.

User 1 ~ 5 Setup



Besides the administrator role, users with the guest authority from system administrator can also access the camera. However, Users 1 ~ 5 are allowed only to review the live picture. Without authorization, any operation will be forbidden.

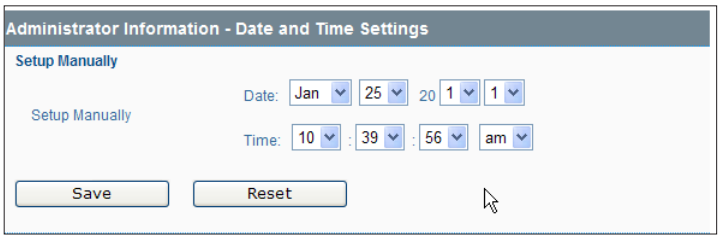
- Both the default guest's login name and password are '**guest**'.
- **User ID:** Fill a guest's User ID in the User ID field.
- **Password:** Fill in a password associated with a guest's User ID.
- **Password (Confirm):** Re-enter the password again to confirm it.

Click **Save** to have configurations take effect.

3.5.2 Date/Time

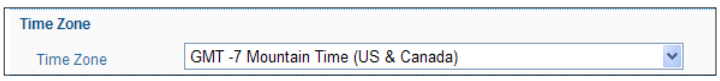
Setup Manually

Click the drop-down menus to set up system date and time. Click **Reset** to reset each item. When finished, click **Save** to have configurations take effect.



Time Zone

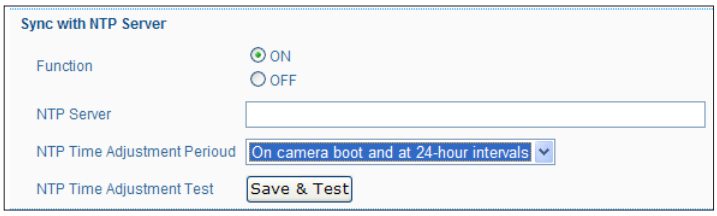
Click the drop-down menu to select the time zone where your IP camera is located.



Sync with NTP Server

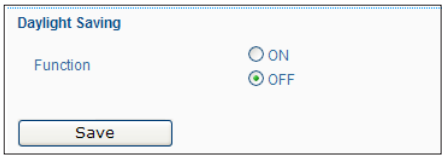
When this function is enabled, the ***Setup Manually*** interface is then unavailable.

Select ON to enable the NTP Server function. When enabled, the date and time will be synchronized by the NTP server on the Internet. You can also set the time period for NTP time synchronizing. The button **Save & Test** can test the NTP Server Time.



Daylight Saving

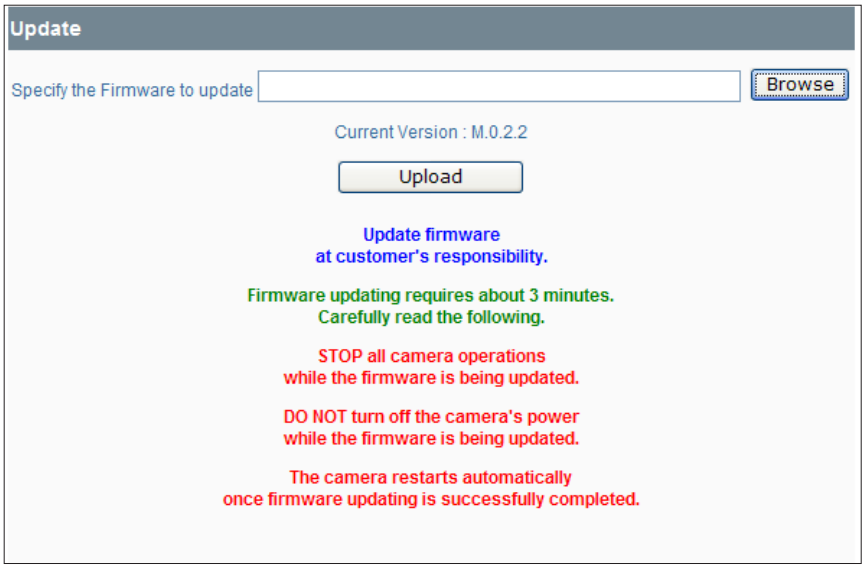
Select **ON** to activate the daylight-saving function if you are in a daylight-saving time zone (effective for NTP mode only).



3.5.3 Firmware

You can update system firmware once the update file is available. It is the customer's responsibility to update firmware. All camera motions will shut down during firmware update. Close any other screens before starting a firmware update. Never disconnect power and LAN cable during the firmware update process. Rebooting the camera after firmware update may take approx. 3minutes. After you finish FW update, please reboot you computer. Be careful, power can't be shut down when you're updating firmware. Otherwise, it may cause FW update failure and you have to call back to maintenance.

1. **Specify the Firmware to update**: Click the Browse button to locate the firmware file.
2. Make sure the file located is the correct one for firmware update.
3. Click the **Upload** button to start the update process.

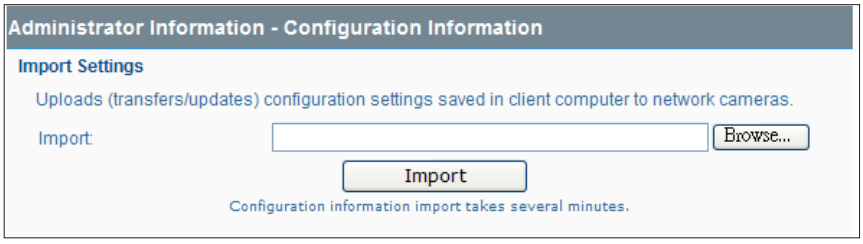

Update
Specify the Firmware to update
Browse...
Current Version : M.0.2.2
Upload
Update firmware
at customer's responsibility.
Firmware updating requires about 3 minutes.
Carefully read the following.
STOP all camera operations
while the firmware is being updated.
DO NOT turn off the camera's power
while the firmware is being updated.
The camera restarts automatically
once firmware updating is successfully completed.

3.5.4 Configuraion

Import Settings

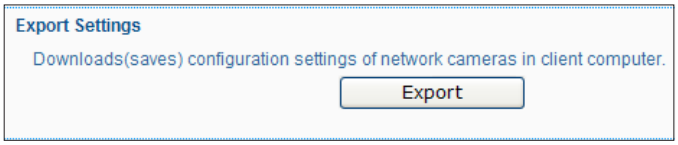
This function is designed to upload configuration from the client computer to network cameras.

1. Click the **Browse** button to locate the files on the client computer.
2. Make sure the file located is the correct one for upload.
3. Click the **Import** button to start the upload process.



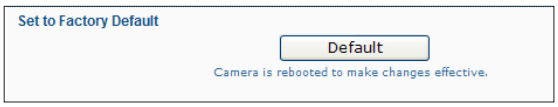
Export Settings

This function is designed to download configuration from this network camera to the client computer. Just click the **Export** button to start the download process.



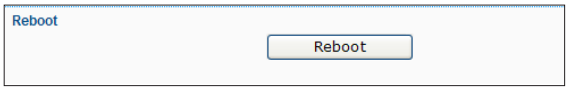
Set to Factory Default

This function is designed to reset all configurations into factory default. Just click the **Deafult** button and then a dialog box shows up to ask you to restart the camera.



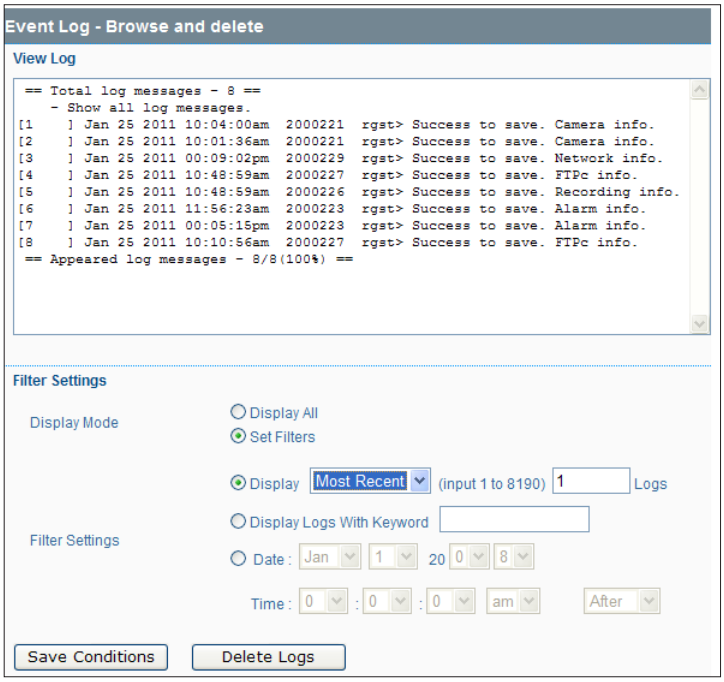
Reboot

This function is designed to reboot the camera. Clicking the **Reboot** button and a dialog box appears with confirmation message. Click **OK** to reboot the network camera.



3.6 Event Log

Click Event Log on the left-hand menu to display the Event Log interface.


Event Log - Browse and delete
View Log
== Total log messages - 8 ==
- Show all log messages.
[1] Jan 25 2011 10:04:00am 2000221 rgst> Success to save. Camera info.
[2] Jan 25 2011 10:01:36am 2000221 rgst> Success to save. Camera info.
[3] Jan 25 2011 00:09:02pm 2000229 rgst> Success to save. Network info.
[4] Jan 25 2011 10:48:59am 2000227 rgst> Success to save. FTPc info.
[5] Jan 25 2011 10:48:59am 2000226 rgst> Success to save. Recording info.
[6] Jan 25 2011 11:56:23am 2000223 rgst> Success to save. Alarm info.
[7] Jan 25 2011 00:05:15pm 2000223 rgst> Success to save. Alarm info.
[8] Jan 25 2011 10:10:56am 2000227 rgst> Success to save. FTPc info.
== Appeared log messages - 8/8(100%) ==
Filter Settings
Display Mode
Display All
Set Filters
Display
Most Recent
(input 1 to 8190)
1
Logs
Filter Settings
Display Logs With Keyword
Date :
Jan
1
20
0
8
Time :
0
0
0
am
After
Save Conditions
Delete Logs

- **View Log**: The area displays the log message.
- **Display Mode**: Click the radio buttons to display all logs or enable the filter settings.
- **Filter Settings:**
  - Set the filter condition for displaying logs by **Most Recent** or **Earlist** logs (1 to 8190 records).
  - Fill in the field with keyword to display logs.
  - Set the fiter condition for displaying logs by Date and Time.

MESSOA TAIWAN, R.O.C.

6F, No.26, Wuquan 6th Rd., Wugu District,
New Taipei City 248, Taiwan (R.O.C.)
Tel: +886-2-2298-3908
Fax: +886-2-2298-3909
E-mail: info@messoa.com

MESSOA USA

13611 12th St, Unit B Chino, CA 91710, USA
Tel: +1-909-590-5955
Fax: +1-909-590-2374
E-mail: info@messoa.com

MESSOA SHANGHAI INC.

Room 301, Yuanzhong Office Building, No.2007
Hongmei Rd., Xuhui District, Shanghai 201103
Tel: +86-21-6495-9236
Fax: +86-21-6495-9238
E-mail: info@messoa.com

MESSOA JAPAN

8F Salute Bldg 72 Yoshidamachi,
Naka-Ku Yokohama Kanagawa 231-0041, Japan
Tel: +81-45-2500680
Fax: +81-45-2500681
E-mail: info@messoa.com

2012-05 A1

All brand names and registered trademarks referred in this document are the property of their respective owner(s).

All designs and specifications are subject to change without prior notice.